SHARP SERVICE MANUAL

No. 00ZUP410THSME

FACSIMILE

Illustration: UX-P410TH

UX-P410
FO-P610
MODEL NX-P160

MODEL	SELECTION CODE	DESTINATION
UX-P410	TH	Thailand
FO-P610	TH	Thailand
NX-P160	TH	Thailand

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Parts marked with "⚠" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

SHARP CORPORATION

This document has been published to be used for after sales service only.
The contents are subject to change without notice.

CAUTION FOR BATTERY REPLACEMENT

(Danish) ADVARSEL !
Lithiumbatteri-Eksplosionsfare ved fejlagtig håndtering.
Udskiftning må kun ske med batteri af samme fabrikat og type.
Levér det brugte batteri tilbage til leverandoren.

(English) Caution !
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type
recommended by the equipment manufacturer.
Discard used batteries according to manufacturer's
instructions.

(Finnish) VAROITUS
Paristo voi räjähtää, jos se on virheellisesti asennettu.
Vaihda paristo ainoastaan laitevalmistajan suosittelemaan
tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden
mukaisesti.

(French) ATTENTION
Il y a danger d'explosion s' il y a remplacement incorrect
de la batterie. Remplacer uniquement avec une batterie du
même type ou d'un type recommandé par le constructeur.
Mettre au rébut les batteries usagées conformément aux
instructions du fabricant.

(Swedish) VARNING
Explosionsfare vid felaktigt batteribyte.
Använd samma batterityp eller en ekvivalent
typ som rekommenderas av apparattillverkaren.
Kassera använt batteri enligt fabrikantens
instruktion.

(German) Achtung
Explosionsgefahr bei Verwendung inkorrekter Batterien.
Als Ersatzbatterien dürfen nur Batterien vom gleichen Typ oder
vom Hersteller empfohlene Batterien verwendet werden.
Entsorgung der gebrauchten Batterien nur nach den vom
Hersteller angegebenen Anweisungen.

CHAPTER 1. GENERAL DESCRIPTION

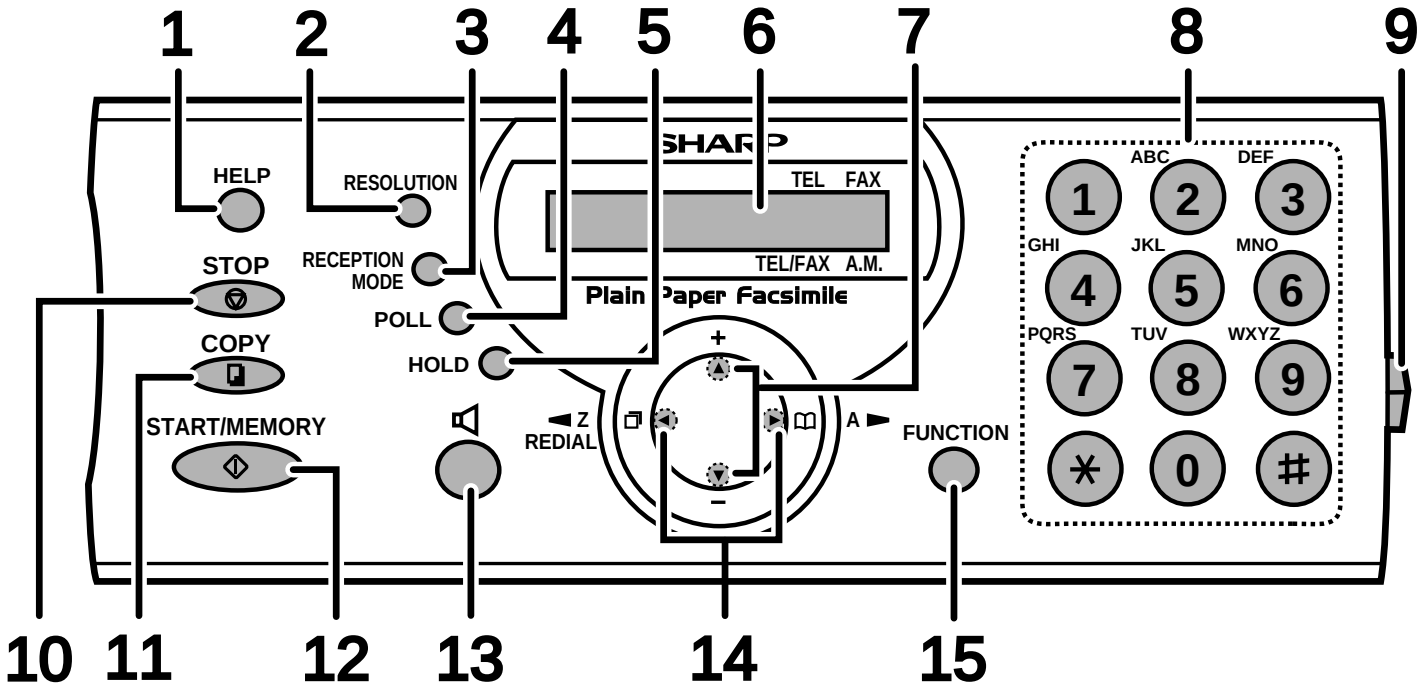
[1] Specifications

Automatic dialing:	30 numbers
Imaging film:	**Initial starter roll:** (included with machine): 50 m (approx. 150 A4 pages) **Replacement roll** (not included): **FO-9CR** 60 m roll (one roll yields approx. 180 A4 size pages)
Memory size* :	448 KB (approx. 24 average pages)
Modem speed:	9,600 bps with automatic fallback to lower speed
Transmission time* :	Approx. 15 seconds
Resolution:	**Horizontal:** 8 dots/mm **Vertical:** Standard: 3.85 lines/mm Fine/Halftone: 7.7 lines/mm Super fine: 15.4 lines/mm
Automatic document feeder:	10 pages max. (A4, 80 g/cm^2 paper)
Recording system:	Thermal transfer recording
Halftone (grayscale):	64 levels
Compression scheme:	MR, MH, Sharp(H2)
Paper tray capacity: (60 -80 g/m^2 paper)	Approx. 50 A4-size sheets (at room temperature; maximum stack height should not be higher than the line on the tray)
Display:	16-digit LCD display
Applicable telephone line:	Public switched telephone network
Compatibility:	ITU-T (CCITT) G3 mode
Input document size:	**Automatic feeding:** Width: 148 to 210 mm Length: 140 to 297 mm **Manual feeding:** Width: 148 to 210 mm Length: 140 to 600 mm
Effective scanning width:	210 mm max.
Effective printing width:	204 mm max.
Contrast control:	Automatic/Dark selectable
Reception modes:	TEL/FAX, TEL, FAX, A.M.(Note: A.M. mode is for connecting an answering machine)
Copy function:	Single/Multi (99 copies/page)
Telephone function:	Yes (cannot be used if power fails)
Power requirements:	220 - 240 V AC, 50/60 Hz
Operating temperature:	5 - 35°C
Humidity:	25 - 85 % RH
Power consumption:	Stand-by: 2.5 W Maximum: 110 W
Dimensions (without attachments):	Width: 327 mm Depth: 193 mm Height: 163 mm
Weight (without attachments):	Approx. 2.8 kg

* Based on Sharp Standard Chart at standard resolutionin Sharp special mode, excluding time for protocol signals (i.e., ITU-T phase C time only).

As a part of our policy of continuous improvement, SHARP reserves the right to make design and specification changes for product improvement without prior notice. The performance specifications figures indicated are nominal values of production units. There may be some deviations from these values in individual units.

[2] Operation panel



1. **HELP key**
   Press this key to print out the Help List, a quick reference guide to the operation of your fax machine.
2. **RESOLUTION key**
   When a document is in the feeder, press this key to adjust the resolution for faxing or copying.
3. **RECEPTION MODE key**
   Press this key to select the reception mode (an arrow in the display will point to the currently selected reception mode).
4. **POLL key**
   Press this key after dialing another fax machine to receive a document (previously loaded in the other machine's feeder) without assistance from the operator of the other machine.
5. **HOLD key**
   Press this key to the put the other party on hold during a phone conversation.
6. **Display**
   This displays messages and prompts to help you operate the machine.
7. **UP and DOWN arrow keys**
   Enlarge/Reduce setting: When marking a copy of a document, press these keys to select an enlarge/reduce setting.
   Volume setting: When a document is not in the feeder, press these keys to change the speaker volume when the **SPEAKER** key has been pressed, or the ringer volume at any other time.
   FUNCTION key settings: Press these keys after pressing the **FUNCTION** key to scroll through the FUNCTION MODE settings.
8. **Number keys**
   Use these keys to dial numbers, and enter numbers and letters when storing auto-dial numbers.
9. **Panel release**
   Press this release to open the operation panel.
10. **STOP key**
    Press this key to cancel operations before they are completed.
11. **COPY key**
    When a document is in the feeder, press this key to make a copy of a document.
12. **START/MEMORY key**
    Press this key after dialing to begin fax transmission. Press this key before dialing to send a fax through memory.
13. **SPEAKER key**
    Press this key to listen to the line and fax tones through the speaker when faxing a document.
14. **Left and right arrow keys**
    Auto-dial numbers: When sending a fax or making a phone call, press these keys to scroll through your auto-dial numbers, and the last number dialed (redial).
    FUNCTION key settings: Press the right arrow key after scrolling with the up and down arrow keys to select a **FUNCTION** key setting.
15. **FUNCTION key**
    Press this key followed by the arrow keys to select special functions and setting.

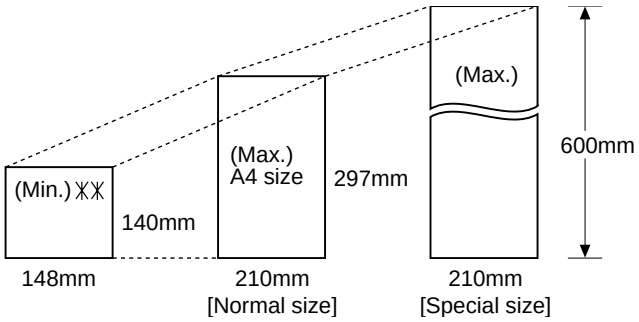
Monitoring phone conversations

When speaking through the handset, you can press the speaker key to allow a third person to listen to the conversation through the speaker. (To turn off the speaker, press the key again.)
To adjust the volume of the speaker when monitoring a conversation, press the up key for high or the down key for low (the volume setting reverts to low each time the handset is replaced).
Note that **the speaker cannot be used for speaking;** it is only for listening.
To avoid feedback (a loud howling sound), be sure to turn off the speaker (press the speaker key once again) before you replace the handset.

[3] Transmittable documents

1. Document Sizes

Normal size	Width	148 – 210 mm
	Length	140 – 297 mm



※※ Use document carrier sheet for smaller documents.

* With special sizes, only one sheet can be fed into the machine at a time. Insert next page into feeder as current page is being scanned.

2. Paper Thickness & Weight

	10 sheets	1sheet(Manual)
Paper weight	70 kg 75 g/m^2	70 kg ~ 135 kg 80 g/m^2 ~ 157g/m^2
Paper thickness (ref.)	0.1 mm	0.1 mm ~ 0.18mm
Paper size	LGL (216 mm x 355.6 mm) A4 (210 mm x 297 mm) LTR (216 mm x 279 mm)	
Feeder capacity	A4/LTR: 10 sheets LGL : 1 sheet	

3. Document Types

- Normal paper

  Documents handwritten in pencil (No. 2 lead or softer), fountain pen, ball-point pen, or felt-tipped pen can be transmitted.

  Documents of normal contrast duplicated by a copying machine can also be transmitted.
- Diazo copy (blue print)

  Diazo copy documents of a normal contrast may be transmitted.
- Carbon copy

  A carbon copy may be transmitted if its contrast is normal.

4. Cautions on Transmitting Documents

- Documents written in yellow, greenish yellow, or light blue ink cannot be transmitted.
- Ink, glue, and correcting fluid on documents must be dry before the documents can be transmitted.
- All clips, staples and pins must be removed from documents before transmission.
- Patched (taped) documents should be copied first on a copier and then the copies used for transmission.
- All documents should be fanned before insertion into the feeder to prevent possible double feeds.

5. Automatic Document Feeder Capacity

Number of pages that can be placed into the feeder at anytime is as follows:

Normal size: max. ADF 10 pages

Special size: single sheet only (manual feed)

NOTES:
- When you need to send or copy more pages than the feeder limit, place additional pages in feeder when last page in feeder is being scanned.
- Place additional pages carefully and gently in feeder. If force is used, double-feeding or a document jam may result.

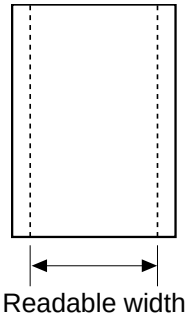
6. Readable Width & Length

The readable width and length of a document are slightly smaller than the actual document size.

Note that characters or graphics outside the effective document scanning range will not be read.

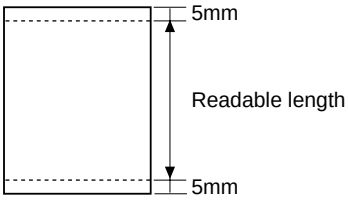
- **Readable width**

210mm, max.



- **Readable length**

This is the length of the document sent minus 5mm from the top and bottom edges.



[4] Installation

1. Site selection

Take the following points into consideration when selecting a site for this model.

ENVIRONMENT

- The machine must be installed on a level surface.
- Keep the machine away from air conditioners, heaters, direct sunlight, and dust.
- Provide easy access to the front, back, and sides of the machine. In particular, keep the area in front of the machine clear, or the original document may jam as it comes out after scanning.
- The temperature should be between 5 - 35°C.
- The humidity should be between 25% and 85% (without condensation).

ELECTRICITY

AC 220 - 240 V, 50/60 Hz, earthed AC (2-prong) outlet.

Caution!

- Connection to a power source other than that specified will cause damage to the equipment and is not covered under the warranty.
- If your area experiences a high incidence of lightning or power surges, we recommend that you install a surge protector for the power and telephone lines. Surge protectors can be purchased at most telephone specialty stores.

If the machine is moved from a cold to a warm place...

Condensation may form on the reading glass if machine is moved from a cold to a warm place, this will prevent proper scanning of documents for transmission. Turn on the power and wait approximately 2 hours before using machine.

TELEPHONE JACK

A standard line cord must be located near the machine. This is the telephone jack commonly used in most homes and offices.

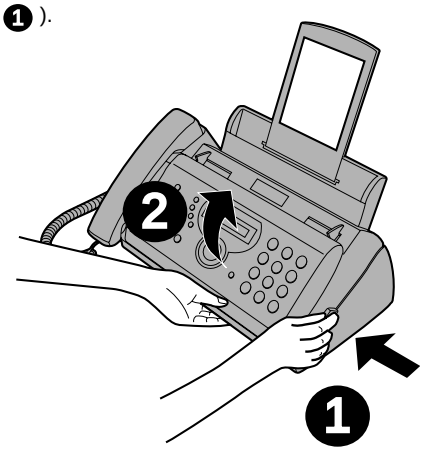
- Plugging the fax machine into a jack which is not line cord may result in damage to the machine or your telephone system. If you do not know what kind of jack you have, or need to have one installed, contact the telephone company.

2. Loading the imaging film (FO-9CR)

Your fax uses a roll of imaging film to create printed text and images. The print head in the fax applies heat to the imaging film to transfer ink to the paper. Follow the steps below to load or replace the film.

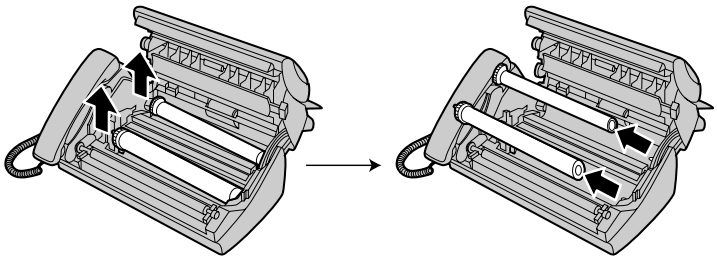
- The initial starter roll of imaging film included with the your fax can print about 150 A4-size pages.
- When replacing the film, use a roll of SHARP **FO-9CR** imaging film. One roll can print about 180 A4-size pages.

① Remove the paper from the paper tray and open the operation panel (press ❶).

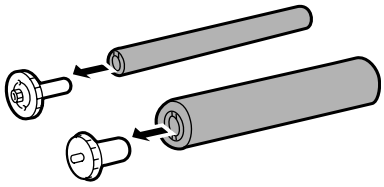


If you are loading the imaging film for the first time, go to Step 4.

② Remove the used film and empty spool.

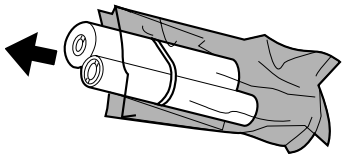


③ Remove the two green gears from the spools.
DO NOT DISCARD THE TWO GREEN GEARS!

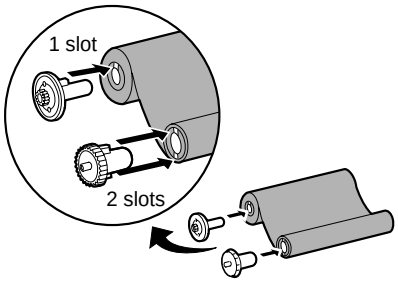


④ Remove the new roll of imaging film from its packaging.

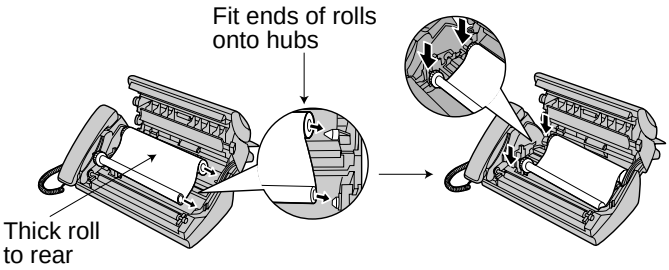
• Cut the band that holds rolls together.



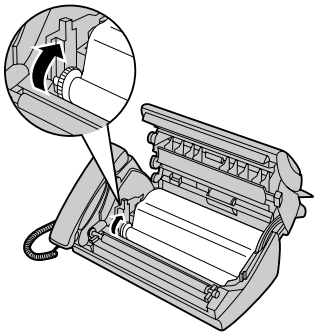
⑤ Insert the green gears.
Make sure the gears fit into the slots in the ends of the rolls.



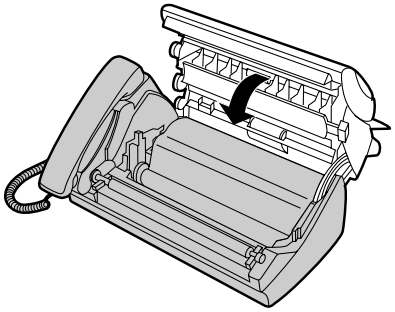
⑥ Insert the film into the print compartment.



⑦ Rotate the front gear as shown until the film is taut.



⑧ Close the operation panel (press down on both sides to make sure it cliks into place).



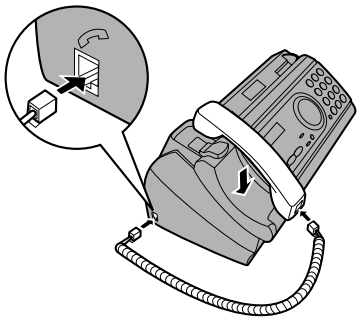
3. Assembly and connections

① Connect the handset as shown and place it on the handset rest.

♦ The ends of the handset cord are identical, so they will go into either socket.

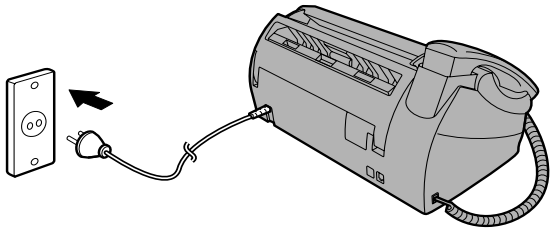
• Make sure the handset cord goes into the socket marked with a handset symbol on the side of the machine!

• Use the handset to make ordinary phone calls, or to transmit and receive faxes manually.

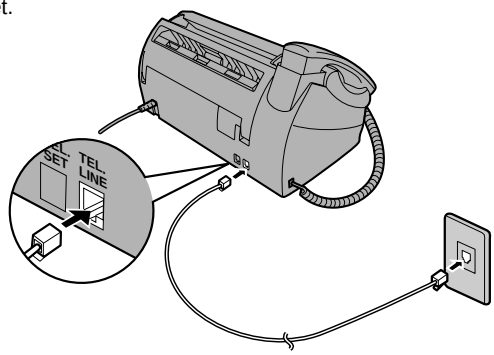


② Plug the power cord into a 220 - 240 V, 50/60 Hz, earthed AC (2-prong) outlet.

- When disconnecting the fax, unplug the telephone line cord before unplugging the power cord.
- **Caution:** The power outlet must be installed near the equipment and must be easily accessible.
- The machine does not have a power on/off switch, so the power is turned on and off by simply plugging in or unplugging the power cord.



③ Insert one end of the line cord into the socket on the back of the machine marked **TEL. LINE**. Insert the other end into a wall telephone socket.



Setting the dial mode:

The fax machine is set for tone dialing. If you are on a pulse dial line, you must set the fax machine for pulse dialing. Press the keys on the operation panel as follows:

1. Press FUNCTION once and ▲ once.

2. Press ► once and ▼ 3 times.

3. Press ► once.

4. Select the dial mode:
TONE: 1 PULSE: 2

5. Press STOP to exit.

Display:

OPTION SETTING ▲▼
DIAL MODE ▲▼
1=TONE, 2=PULSE

The display briefly shows your selection, then:

PSEUDO RING ▲▼

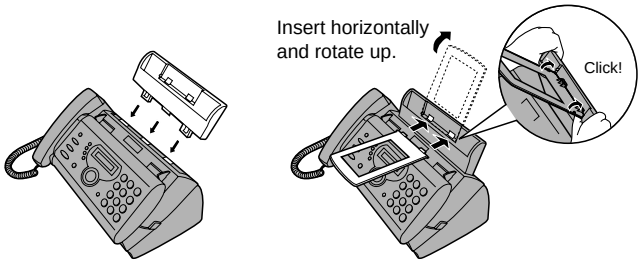
④ Moving your fax and reconnecting.

Should it be necessary to move your fax to a new location, first disconnect the telephone line cord before disconnecting the power lead. When reconnecting, it is necessary to connect the power lead before connecting the telephone line cord.

⑤ Attach the paper tray and paper tray extension.

Note: The paper tray extension has a top side and a bottom side. If you cannot insert the tabs into the holes, turn the support over.

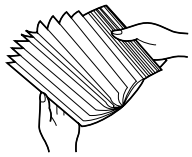
Attach the paper tray **Attach the paper tray extension**



4. Loading printing paper

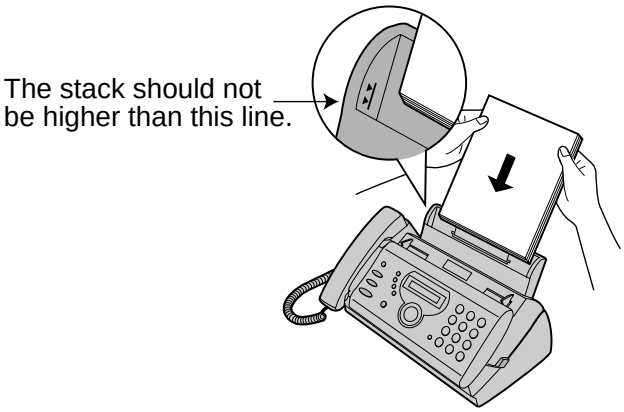
You can load up to 50 sheets of A4-size, 60 - 80 g/m^2 paper in the paper tray (at room temperature; maximum stack height should not be higher than the line on the tray).

① Fan the paper, and then tap the edge against a flat surface to even the stack. Make sure the stack edges are even.



② Insert the stack of paper into the tray, PRINT SIDE DOWN.

- If paper remains in the tray, take it out and combine it into a single stack with the new paper.
- Be sure to load the paper so that printing takes place on the **print** side of the paper. Printing on the reverse side may result in poor print quality.
- **GENTLY LOAD THE PAPER IN THE PAPER TRAY.**
- **DO NOT FORCE DOWN INTO THE FEED SLOT.**



Note: Do not use paper that has already been printed on, or paper that is curled.

Note: If at any time the display shows the alternating messages at right, check the printing paper. If the tray is empty, add paper. If these is paper in the tray, take it out and then reinsert it.

ADD PAPER &
↓ ↑
PRESS START KEY

When you are finished, press START/MEMORY.

③ Print contrast setting.

You fax has been set at the factory to print at normal contrast. If desired, you can change the print contrast setting to LIGHT.

Display:

1. Press FUNCTION once and ▲ once. — OPTION SETTING ▲▼

2. Press ◄ once and ▲ twice. — PRINT CONTRAST ▲▼

3. Press ◄ once. — 1: NORMAL

4. Select the print contrast:
NORMAL: (1) LIGHT: (2)
The display briefly shows your selection, then:
COPY CUT-OFF ▲▼

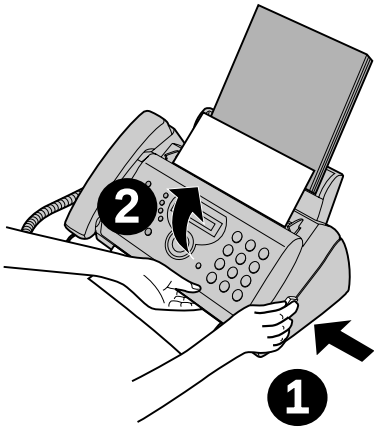
5. Press STOP to return to the date and time display.

5. Clearing a jammed document

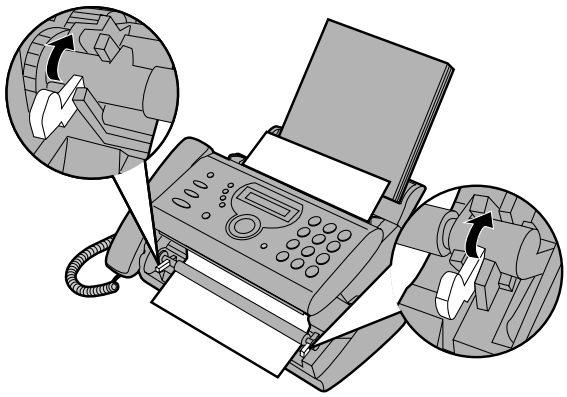
If the original document doesn't feed properly during transmission or copying, or DOCUMENT JAMMED appears in the display, first try pressing the **START/MEMORY** key. If the document doesn't feed out, remove it as explained below.

Important:
Do not try to remove a jammed document without releasing it as explained below. This may damage the feeder mechanism.

① Press ❶ and slowly open the operation panel until it is half open.

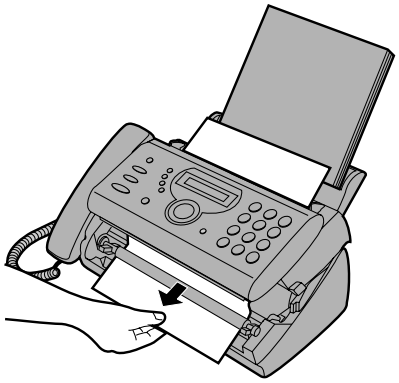


② Flip up the green levers on each side of the white roller.

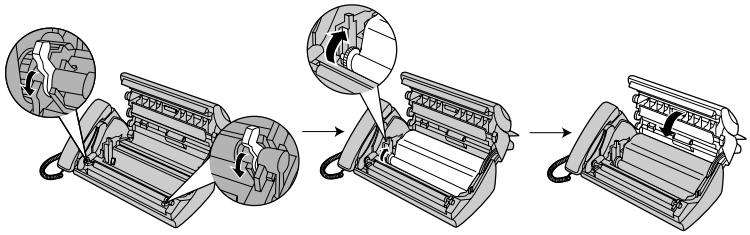


③ Gently and remove the document.

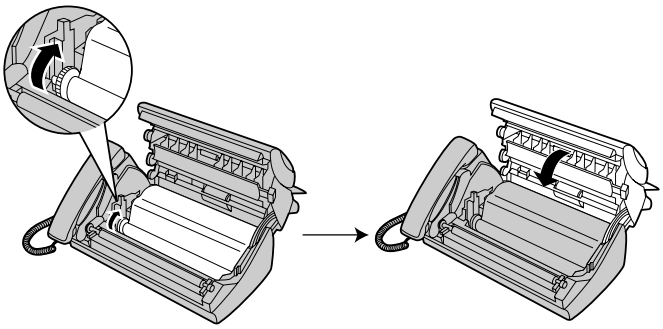
• Be careful not to tear the document.



④ Flip down the green levers on each side of the white roller. Rotate the front gear until the film is taut, and then close the operation panel (press down on both sides to make sure it clicks into place).

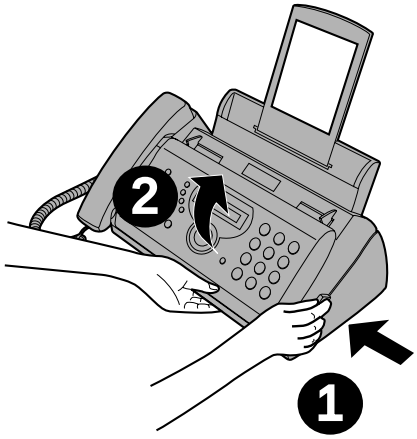


③ Rotate the front gear until the film is taut, and then close the operation panel (press down on both sides to make sure it clicks into place).

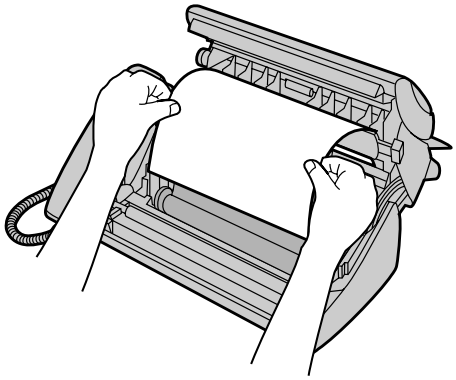


6. Clearing jammed printing paper

① Open the operation panel (press ❶).



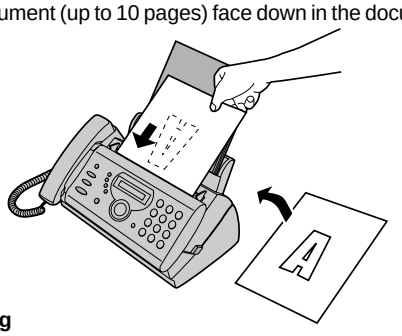
② Gently pull the jammed paper out of the machine, making sure no torn pieces of paper remain in the print compartment or rollers.



[5] Quick reference guide

SENDING FAXES

Place your document (up to 10 pages) face down in the document feeder.



Normal Dialing

1. Lift the handset or press .
2. Dial the fax number.
3. Wait for the reception tone (if a person answers, ask them to press their Start key).
4. Press START/MEMORY.

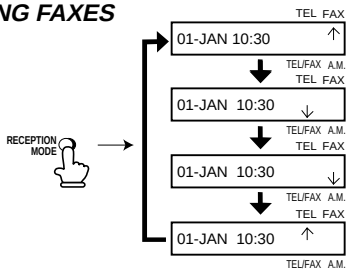
Automatic Dialing

1. Press ▶ or ◀ until the name of the other party appears in the display (if no name was stored, the number will appear).
2. Press START/MEMORY.

Direct Keypad Dialing

1. Dial the fax number.
2. Press START/MEMORY.

RECEIVING FAXES



FAX mode: The fax machine automatically answers and receives faxes.

TEL mode: Answer all calls (even faxes) by picking up the handset. To begin fax reception, press START/MEMORY.

TEL/FAX mode: The fax machine automatically answers and receives faxes. Voice calls are signalled by a special ringing sound.

A.M. mode: Select this mode when an answering machine is connected to the fax and the answering machine is turned on.

STORING AUTO DIAL NUMBERS

1. Press FUNCTION once and ▶ twice.
2. Enter the full fax/phone number.
3. Press START/MEMORY.
4. Enter a name by pressing number keys. (To enter two letters in succession that require the same key, press ▶ after entering the first letter.)

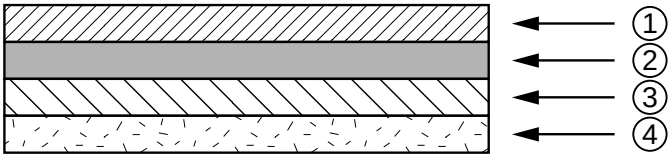
SPACE = 1	G = 4	N = 66	U = 88
A = 2	H = 44	O = 666	V = 888
B = 22	I = 444	P = 7	W = 9
C = 222	J = 5	Q = 77	X = 99
D = 3	K = 55	R = 777	Y = 999
E = 33	L = 555	S = 7777	Z = 9999
F = 333	M = 6	T = 8	

5. Press START/MEMORY and then STOP.

[6] Option imaging film specifications

1. Structure

This article is composed of polyester film coated with heat-resistant layer, matt layer and hot melt ink layer, leader film and paper core. Ink film specification is "DNP standard ink film HC".



① Heat Resistant Layer
② Base Film
③ Matt Layer
④ Hot melt Ink Layer

2. Details of compositions

2-1. Base film

Heading	Requirements	Measuring method
Material	Polyethylene-terephthalate	–

2-2. Heat resistant layer

Heading	Requirements	Measuring method
Grade	HR Mixer P-5	–

2-3. Matt layer

Heading	Requirements	Measuring method
Grade	ML Sumi	–

2-4. Hot melt ink layer

Heading	Requirements	Measuring method
Grade	#507W	–

CHAPTER 2. ADJUSTMENTS

[1] Adjustments

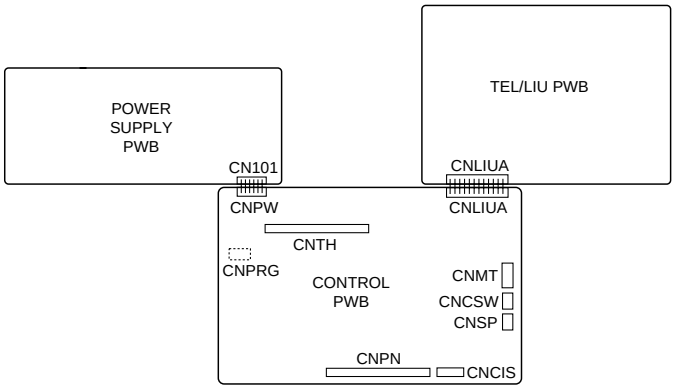
General

Since the following adjustments and settings are provided for this model, make adjustments and/or setup as necessary.

1. Adjustments of output voltage (FACTORY ONLY)

1. Install the power supply unit in the machine.
2. Set the recording paper and document.
3. When the document is loaded, power is supplied to the output lines. Confirm that outputs are within the limits below.

Output voltage settings



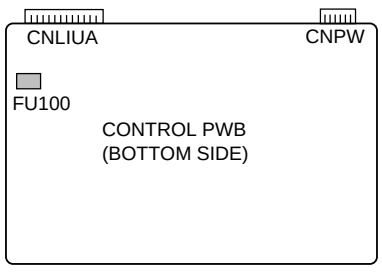
Output	Voltage limits
+5V	4.25V ~ 5.75V
+24V	23.3V ~ 24.7V

Connector No. / Pin No.	CNPW
1	+24V
2	+24V
3	MG
4	MG
5	DG
6	+5V

2. IC protectors replacement

ICPs (IC Protectors) are installed to protect the motor driver circuit. ICPs protect various ICs and electronic circuits from an overcurrent condition.

The location of ICPs are shown below:



(1) FU100 (KAB3202) is installed in order to protect IC's from an overcurrent generated in the motor drive circuit. If FU100 is open, replace it with a new one.

3. Settings

(1) Dial mode selector

DIAL mode (Soft Switch No. SW-B4 DATA No. 3)

(step 1) Select "OPTION SETTING".

KEY : FUNCTION → ▼▼▼ → ▶

DISPLAY: [OPTION SETTING ▲▼▶] [NUMBER OF RING ▲▼▶]

(step 2) Select "DIAL MODE".

KEY: Push ▼ until [DIAL MODE ▲▼▶] is → ▶ indicated because the number of ▼ 's changes by the model.

DISPLAY: [DIAL MODE ▲▼▶] [1=TONE, 2=PULSE]

(step 3) Select, using "1" or "2".

KEY: (1)

DISPLAY: [TONE SELECTED]

KEY: (2)

DISPLAY: [PULSE SELECTED]

(step 4) End, using the "STOP" key.

KEY: STOP.

4. Volume adjustment

You can adjust the volume of the speaker and ringer using the UP and DOWN arrow keys.

(1) Speaker

1. Press the **SPEAKER** key.
2. Press the **UP** or **DOWN** key until the display shows the desired volume level.

Display:

[SPEAKER: HIGH] ↕ [SPEAKER: MIDDLE] ↕ [SPEAKER: LOW]

• Press **SPEAKER** key again to turn off the speaker.

(2) Ringer

1. Press the **UP** or **DOWN** key. (Make sure **SPEAKER** key has not been pressed and a document is not loaded in the feeder.)

Display:

[RINGER: HIGH] ↕ [RINGER: MIDDLE] ↕ [RINGER: LOW] ↕ [RINGER OFF: OK?]

• The ringer will ring once at the selected level, then the date and time will reappear in the display.

2. If you selected RINGER OFF: OK?, press **START/MEMORY** key.

Note: When the reception mode is set to TEL, the ringer will still ring at LOW if turned off.

[2] Diagnostics and service soft switch

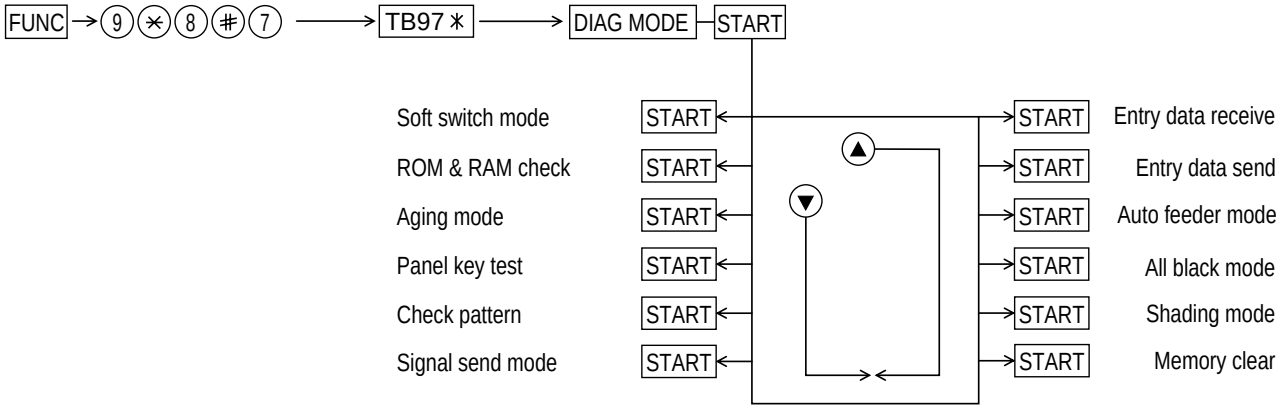
1. Operating procedure

(1) Entering the diagnostic mode

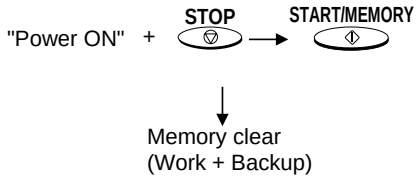
Press [FUNC] →[9]→ [✳] →[8] →[#] →[7] , and the following display will appear.

[ROM Ver. TB97 ✳] After 2 sec: [DIAG MODE]

Then press the [START] key. Select the desired item with the [✳] key or the [#] key or select with the rapid key. Enter the mode with the START key. (Diag•specifications)



If the diag mode cannot be set, repeat the diag mode operation, performing the following operation.
After the power is turned on and "WAIT A MOMENT" is indicated, press the STOP key.



In relation with the process response (request from Production Engineering) "WAIT A MOMENT" clock indication may appear depending on STOP key timing. If the STOP key is held down, "MEMORY CLEAR?" appears.

2. Diagnostic items

ITEM No.	Contents	Function
1	SOFT SWITCH MODE	Soft switches are displayed and changed. List can be output.
2	ROM & RAM CHECK	ROM is sum-checked, and RAM is matched. Result list is output.
3	AGING MODE	10 sheets of check patterns are output every 5 minutes per sheet.
4	PANEL KEY TEST	Panel keys are tested. Result list is output.
5	CHECK PATTERN	Check pattern is output.
6	SIGNAL SEND MODE	Various signals of FAX communication are output.
7	MEMORY CLEAR	Back-up memory is cleared, and is set at delivery.
8	SHADING MODE	Shading compensation is performed in this mode.
9	ALL BLACK PRINT	To check the print head, whole dots are printed over the interval of 2 m.
10	AUTO FEEDER MODE	Insertion and discharge of document are tested.
11	ENTRY DATA SEND	Registered content is sent.
12	ENTRY DATA RECEIVE	Registered content is received, and its list is output.

3. Diagnostic items description

3. 1. Soft switch mode

Used to change the soft switch settings.

The soft switch which is stored internally is set by using the keys.

The available soft switches are SW-A1 to SW-O6.

The content of soft switches is shown in page 2-5 to 2-18.

The contents are set to factory default settings.

3. 2. ROM & RAM check

ROM executes the sum check, and RAM executes the matching test. The result will be notified with the number of short sounds of the buzzer as well as by printing the ROM & RAM check list.
Number of short sounds of buzzer 0 → No error
1 → ROM error
2 → RAM error (4 Kbyte SRAM or 512 Kbyte DRAM)

3. 3. Aging mode

If any document is present, copying will be executed sheet by sheet. If no document is present, the check pattern will be printed sheet by sheet. This operation will be executed at a rate of one sheet per 5 minutes, and will be ended at a total of 10 sheets.

3. 4. Panel key test

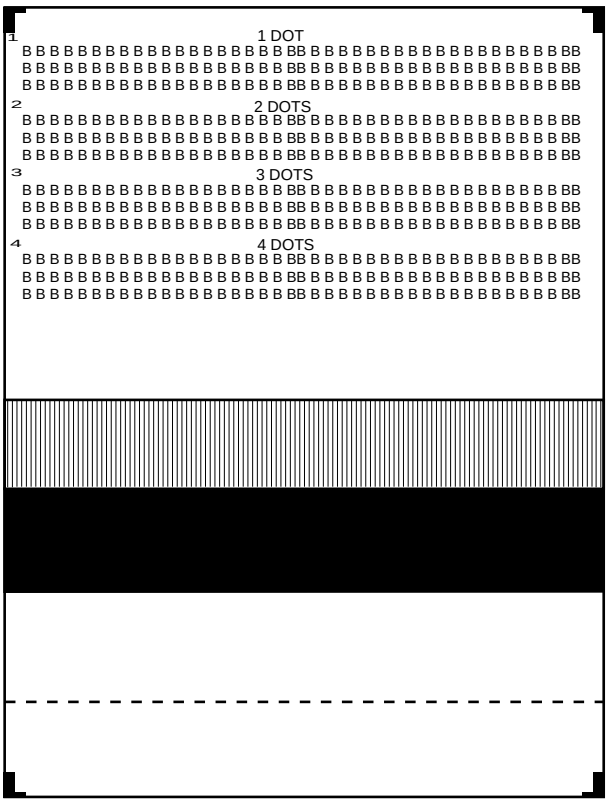
This mode is used to check whether each key operates properly. Press the key on the operation panel, and the key will be displayed on the display. Therefore, press all keys. At this time, finally press the STOP key.

When the STOP key is pressed, the keys which are not judged as "pressed" will be printed on the result list.

- LED part of the contact image sensor (CIS) is kept on during the term from when "START" of the panel test mode to end with the STOP key.

3. 5. Check pattern

This mode is used to check the state of the printing head. It is ended with the following pattern printed on one printing sheet.



3. 6. Signal send mode

This mode is used to send various signals to the circuit during FAX communication. Every push of START key sends a signal in the following sequence. Moreover, the signal sound is also output to the speaker when the line monitor of the soft switch is on.

[1] No signals
[2] 9600BPS (V.29)
[3] 7200BPS (V.29)
[4] 4800BPS (V27ter)
[5] 2400BPS (V27ter)
[6] 300BPS (FLAG)
[7] 2100Hz (CED)
[8] 1100Hz (CNG)
[9] PSEUDO RINGER

3. 7. Memory clear

This mode is used to clear the backup memory and reset to the default settings.

3. 8. Shading mode

The mode is used for the shading compensation. For reading, set up the special original paper.
The compensation memorizes the reference data of white and black for reading.
Moreover, the memorized data is not erased even if memory clear mode is executed.

3. 9. All black print

This mode is used to check the state of the printing head and to intentionally overheat it. Whole dots are printed over the interval of 2 m. If it is overheated or the printing sheet is jammed, press STOP key for the end.

3. 10. Auto feeder mode

In this mode, a document is inserted and discharged to check the auto feed function.

After this mode is started, set a document, and the document feed will be automatically tested.

3. 11. Entry data send

This mode is used to send the registered data to another machine and make the other machine copy the registered content.

Before sending in this mode, it is necessary to set the other machine at the entry data receive mode.

The following, information will be sent to the remote machine:

1. Telephone list data
2. Sender register data
3. Optional setting content
4. Soft switch content
5. Junk fax number list
6. Recording setting list data

3. 12. Entry data receive

In this mode, the registered data sent from the other machine is received and the received data is registered in the machine. When this mode is used for receiving, the other machine must be in the entry data send mode.

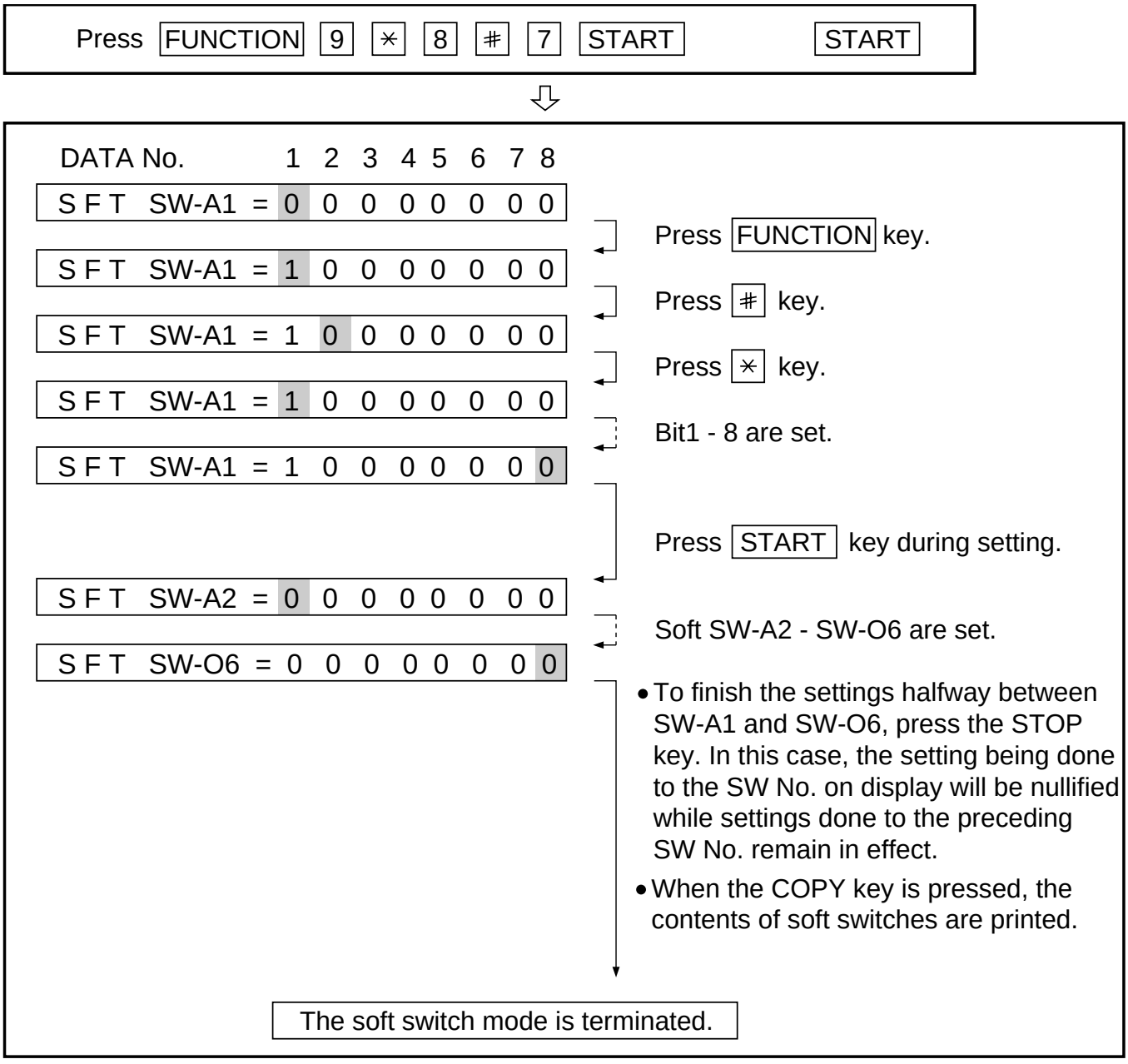
After receiving is completed, the following lists are printed.

1. Telephone list data
2. Sender register data (*)
3. Optional setting list (*)
4. Soft switch content
5. Junk fax number list (*)
6. Recording setting list data (*)

(*): Refer to SETUP LIST

4. How to make soft switch setting

To enter the soft switch mode, press the following key entries in sequence.


Press FUNCTION 9 ✳ 8 # 7 START START
DATA No. 1 2 3 4 5 6 7 8
S F T SW-A1 = 0 0 0 0 0 0 0 0
S F T SW-A1 = 1 0 0 0 0 0 0 0
S F T SW-A1 = 1 0 0 0 0 0 0 0
S F T SW-A1 = 1 0 0 0 0 0 0 0
S F T SW-A1 = 1 0 0 0 0 0 0 0
S F T SW-A2 = 0 0 0 0 0 0 0 0
S F T SW-O6 = 0 0 0 0 0 0 0 0
Press FUNCTION key.
Press # key.
Press ✳ key.
Bit1 - 8 are set.
Press START key during setting.
Soft SW-A2 - SW-O6 are set.
• To finish the settings halfway between SW-A1 and SW-O6, press the STOP key. In this case, the setting being done to the SW No. on display will be nullified while settings done to the preceding SW No. remain in effect.
• When the COPY key is pressed, the contents of soft switches are printed.
The soft switch mode is terminated.

5. Soft switch description

• Soft switch

SW NO.	DATA NO.	ITEM	Switch setting and function		Initial setting					Remarks
			1	0	TH					
SW I A1	1	Protect from echo	No	Yes	0					
	2	Forced 4800 BPS reception	Yes	No	0					
	3	Footer print	Yes	No	0					
	4	Length limitation of copy/send/receive	No limit	Copy/send: 60cm Receive: 1m	0					
	5	CSI transmission	No transmitted	Transmitted	0					
	6	DIS receive acknowledgement during G3 transmission	Twice	NSF: Once DIS: Twice	0					
	7	Non-modulated carrier for V29 transmission mode	Yes	No	0					
	8	EOL detect timer	25 sec	13 sec	0					
SW I A2		Modem speed		V.29 / V.27 ter						
				9600bps / 7200bps / 4800bps / 2400bps						
	1		No. 1	0 / 0 / 0 / 0	0					
	2		No. 2	0 / 0 / 0 / 0	0					
	3		No. 3	0 / 1 / 1 / 0	0					
	4		No. 4	1 / 1 / 0 / 0	1					
	5	Sender's information transmit	No	Yes	0					
	6	H2 mode	No	Yes	0					
	7	Communication error treatment in RTN sending mode (reception)	No communication error	Communication error	0					
	8	CNG transmission	No	Yes	0					
SW I A3		CED tone signal interval		1000ms / 750ms / 500ms / 75ms						
	1		No. 1	1 / 1 / 0 / 0	0					
	2		No. 2	1 / 0 / 1 / 0	0					
	3	MR coding	No	Yes	0					
	4	Reserved			0					
	5	Reserved			0					
	6	Reserved			0					
	7	Reserved			0					
	8	Reserved			0					
SW I A4		Signal transmission level	Binary input							
	1		No. = 16 8 4 2 1		0					
	2		1 2 3 4 5		0					
	3		0 0 1 0 0		1					
	4				0					
	5				0					
	6	Protocol monitor (error print)	Printed at com. error	Not printed	0					
	7	Protocol monitor	Yes	No	0					
	8	Line monitor	Yes	No	0					

SW NO.	DATA NO.	ITEM	Switch setting and function									Initial setting						Remarks
			1					0				TH						
SW I A5		Digital line equalization setting (Reception)		7.2km				0km										
	1		No. 1	1				0				1						
	2		No. 2	1				0				1						
		Digital line equalization setting		7.2km				0km										
	3	(Transmission)	No. 3	1				0				0						
	4		No. 4	1				0				0						
	5	Reserved										0						
	6	Reserved										0						
	7	Error criterion	10 ~ 20 %					5 ~ 10 %				0						
	8	Anti junk fax check	Yes					No				1						
SW I A6	1	Reserved										0						
	2	End Buzzer	Yes					No				1						
	3	Disconnect the line when DIS is received in RX mode	No					Yes				1						
	4	Equalizer freeze control (MODEM)	On					Off				0						
	5	Equalizer freeze control 7200 BPS only	No					Yes				0						
	6	CNG transmission in manual TX mode	Yes					No				1						
	7	Initial compression scheme for sharp fax in TX mode	MR mode					H2 mode				0						
	8	Modem speed automatic fallback when RX level is under -40dBm	Yes					No				0						
SW I B1	1	Recall interval	Binary input									0						
	2		No. =	8	4	2	1					1						
	3			1	2	3	4					0						
	4			0	1	0	1					1						
	5	Recall times	Binary input									0						
	6		No. =	8	4	2	1					0						
	7			5	6	7	8					1						
	8			0	0	1	1					1						
SW I B2	1	Dial pausing (sec/pause)	4 sec					2 sec				0						
	2	Dial tone detection (before auto dial)	No					Yes				1						
	3	Reserved										0						
	4	Busy tone detection (after auto dial)	No					Yes				1						
		Waiting time after dialing		45 seconds		55 seconds		90 seconds		140 seconds								
	5		No.5	0		0		1		1		0						
	6		No.6	0		1		0		1		0						
	7	Reserved										0						
	8	Reserved										0						
SW I B3	1	Reserved										0						
	2	Reserved										0						
	3	Reserved										0						
	4	Reserved										0						
	5	Reserved										0						
		Auto dial mode delay timer of before line		0 second		1.5 seconds		3.0 seconds		4.5 seconds								
	6	connect	No.6	0		0		1		1		1						
	7		No.7	0		1		0		1		0						
	8	Hold key	Enable					Disable				1						

SW NO.	DATA NO.	ITEM	Switch setting and function					Initial setting					Remarks
			1				0	TH					
SW I B4		Auto dial mode delay timer of after line		1.7 seconds	3.0 seconds	3.6 seconds	4.0 seconds						
	1	connect	No.1	0	0	1	1	0					
	2		No.2	0	1	0	1	1					
	3	Dial mode	Tone			Pulse		1					OPTION
	4	Pulse → Tone change function by ✳ key	Enable			Disable		1					
	5	Dial pulse make/break ratio (%)	40/60			33/67		1					
	6	Reserved						0					
	7	Reserved						0					
	8	Recalling fixed only one time when dialing was unsuccessful without detecting busy tone signal	Yes			No		0					
SW I B5		DTMF signal transmission level (Low)	Binary input										
	1		No. =	16	8	4	2	1	0				
	2			1	2	3	4	5	1				
	3			0	1	1	0	1	1				
	4								0				
	5								1				
	6	Reserved						0					
	7	Reserved						0					
	8	Reserved						0					
SW I B6		DTMF signal transmission level (High)	Binary input										
	1		No. =	16	8	4	2	1	0				
	2			1	2	3	4	5	1				
	3			0	1	0	0	1	0				
	4								0				
	5								1				
	6	Reserved						0					
	7	Reserved						0					
	8	Reserved						0					
SW I C1		Reading slice (Binary)		Factory setting	Light	Dark	Darker in dark						
	1		No. 1	0	1	0	1	0					
	2		No. 2	0	0	1	1	0					
		Reading slice (Half tone)		Factory setting	Light	Dark	Darker in dark						
	3		No. 3	0	1	0	1	0					
	4		No. 4	0	0	1	1	0					
	5	Line density selection	Fine			Standard		0					
	6	Reserved						0					
	7	MTF correction in half tone mode	No			Yes		0					
	8	Reserved						0					
SW I D1		Number of rings for auto receive	Binary input										OPTION
	1		No. =	8	4	2	1	0					
	2			1	2	3	4	0					
	3			0	0	1	0	1					
	4							0					
	5	Automatic switching manual to auto receive mode	Reception after 5 rings			No reception		0					
	6	Reserved						0					
		Cl detect frequency		As PTT	11.5Hz	13.0Hz	20.0Hz						
	7		No.7	0	0	1	1	0					
	8		No.8	0	1	0	1	0					

SW NO.	DATA NO.	ITEM	Switch setting and function		Initial setting					Remarks
			1	0	TH					
SW I D2	1	Reserved			0					
	2	Reserved			0					
	3	Reserved			0					
	4	Reserved			0					
	5	Reserved			0					
	6	Reserved			0					
	7	Reserved			0					
	8	Reserved			0					
SW I D3	1	Cl off detection timer (0-1550ms setting by 50ms step)	Binary input No. = 16 8 4 2 1 1 2 3 4 5 0 1 1 1 0		0 1 1 1 0					
	2									
	3									
	4									
	5									
	6	Reserved			0					
	7	Reserved			0					
	8	Reserved			0					
SW I E1	1	Tel/Fax Automatic switching mode	Tel/Fax auto switch	Switch to Fax	1					
	2	Pseudo ringing time at the tel/fax automatic switching mode	15 sec / 60 sec / 30 sec / 120 sec No.2: 0 / 0 / 1 / 1 No.3: 0 / 1 / 0 / 1		0 0					OPTION
	3									
	4	Number of CNG signal detection at the Tel/Fax automatic switching mode	Twice	Once	1					
	5	CNG detection when TEL/FAX mode	3 sec	5 sec	0					
	6	Pseudo ringer ON/OFF cycle	1 sec ON/4 sec OFF	1 sec ON/2 sec OFF	0					
	7	Post answer tone (Tel/Fax mode)	No	Yes	1					
	8	Type of post answer tone	LA-SI-DO tone	800Hz single tone	1					
SW I E2	1	Pseudo ringer sound volume (0 to -15dBm setting by 1dBm step)	Binary input No. = 8 4 2 1 1 2 3 4 1 0 1 0		1 0 1 0					
	2									
	3									
	4									
	5	Post answer tone transmission level (0 to -15dBm setting by 1dBm step)	Binary input No. = 8 4 2 1 5 6 7 8 0 1 0 0		0 1 0 0					
	6									
	7									
	8									
SW I E3	1	Disconnect the line when DTMF "#" is received during tel/fax automatic switching mode	Yes	No	0					
	2	Reserved			0					
	3	Reserved			0					
	4	Reserved			0					
	5	Reserved			0					
	6	Reserved			0					
	7	Reserved			0					
	8	Reserved			0					
SW I F1	1	DTMF detection time	50ms / 80ms / 100ms / 120ms No. 1: 0 / 0 / 1 / 1		0					
	2		No. 2: 0 / 1 / 0 / 1		0					
	3	Protection of remote reception (5 ✳✳) detect	Yes	No	0					
	4	Remote reception with GE telephone	Compatible	Not compatible	1					
	5	Remote operation code figure by external TEL (0~9)	Binary input No. = 8 4 2 1 5 6 7 8 0 1 0 1		0 1 0 1					OPTION
	6									
	7									
	8									

SW NO.	DATA NO.	ITEM	Switch setting and function					Initial setting					Remarks
			1				0	TH					
SW I F2	1	CNG detection in STAND-BY mode	Yes				No	1					OPTION
		Number of CNG detect (AM mode)		1pulse	2pulses	3pulses	4pulses						
	2		No. 2	0	0	1	1	0					
	3		No. 3	0	1	0	1	1					
		Number of CNG detect (STAND-BY mode)		1pulse	2pulses	3pulses	4pulses						
	4		No. 4	0	0	1	1	0					
	5		No. 5	0	1	0	1	1					
	6	Reserved						0					
	7	Reserved						0					
	8	Reserved						0					
SW I G1	1	Quiet detect time	Binary input					0					OPTION
	2		No. = 8 4 2 1					1					
	3		1 2 3 4					0					
	4		0 1 0 0					0					
	5	Quiet detect start timing	Binary input					0					OPTION
	6		No. = 8 4 2 1					1					
	7		5 6 7 8					0					
	8		0 1 0 1					1					
SW I G2	1	Reserved						0					
	2	Reserved						0					
	3	Reserved						0					
	4	Reserved						0					
	5	Reserved						0					
	6	Reserved						0					
	7	Reserved						0					
	8	Reserved						0					
SW I G3		OGM detect timer		Not work	100ms	200ms	300ms						
	1		No. 1	0	0	1	1	0					
	2		No. 2	0	1	0	1	1					
	3	Reserved						0					
	4	Reserved						0					
		Section time of quiet detection		30s	40s	50s	60s						
	5		No. 5	0	0	1	1	0					
	6		No. 6	0	1	0	1	1					
	7	Choice after quiet detect	Wait response for 3sec				Normal FAX RX	0					
	8	Reserved						0					
SW I H1		Busy tone detection ON/OFF time (Lower		150ms	200ms	250ms	350ms						
	1	duration)	No. 1	0	0	1	1	0					
	2		No. 2	0	1	0	1	0					
		Busy tone detection ON/OFF time (Upper		650ms	900ms	1500ms	2700ms						
	3	duration)	No. 3	0	0	1	1	0					
	4		No. 4	0	1	0	1	1					
	5	Reserved						0					
	6	Busy tone detect continuation sound detect (during ICM: for internal A.M.)	No				Yes	0					
	7	Reserved						0					
	8	Busy tone detect intermittent sound detect (during ICM: for internal A.M.)	No				Yes	0					

SW NO.	DATA NO.	ITEM	Switch setting and function					Initial setting					Remarks
			1		0			TH					
SW I H2		Busy tone detection pulse number		2pulses	4pulses	6pulses	10pulses						
	1		No. 1	0	0	1	1	0					
	2		No. 2	0	1	0	1	1					
	3	Fax switching when A.M. full	Yes		No			0					OPTION
	4	Reserved						0					
	5	Reserved						0					
	6	Reserved						0					
	7	Reserved						0					
	8	Busy tone continuous sound detect time	5sec		10sec			1					
SW I I1	1	Reserved						0					
	2	Reserved						0					
	3	Reserved						0					
	4	Reserved						0					
	5	Reserved						0					
	6	Reserved						0					
	7	Reserved						0					
	8	Reserved						0					
SW I I2	1	Reserved						0					
	2	Reserved						0					
	3	Reserved						0					
	4	Reserved						0					
	5	Reserved						0					
	6	Reserved						0					
	7	Reserved						0					
	8	Reserved						0					
SW I I3	1	Reserved						0					
	2	Reserved						0					
	3	Reserved						0					
	4	Reserved						0					
	5	Reserved						0					
	6	Reserved						0					
	7	Reserved						0					
	8	Reserved						0					
SW I I4	1	Reserved						0					
	2	Reserved						0					
	3	Reserved						0					
	4	Reserved						0					
	5	Reserved						0					
	6	Reserved						0					
	7	Reserved						0					
	8	Reserved						0					
SW I I5	1	Reserved						0					
	2	Reserved						0					
	3	Reserved						0					
	4	Reserved						0					
	5	Reserved						0					
	6	Reserved						0					
	7	Reserved						0					
	8	Reserved						0					

SW NO.	DATA NO.	ITEM	Switch setting and function		Initial setting					Remarks
			1	0	TH					
SW I6	1	Reserved			0					
	2	Reserved			0					
	3	Reserved			0					
	4	Reserved			0					
	5	Reserved			0					
	6	Reserved			0					
	7	Reserved			0					
	8	Reserved			0					
SW I7	1	Reserved			0					
	2	Reserved			0					
	3	Reserved			0					
	4	Reserved			0					
	5	Reserved			0					
	6	Reserved			0					
	7	Reserved			0					
	8	Reserved			0					
SW I J1	1	Reserved			0					
	2	Reserved			0					
	3	Sender’s phone number setting	Cannot change	Change allowed	0					
	4	Reserved			0					
	5	Reserved			0					
	6	Reserved			0					
		Ringer volume		Off / Low / Middle / High						OPTION
	7		No. 7	0 / 0 / 1 / 1	1					
	8		No. 8	0 / 1 / 0 / 1	0					
SW I J2		Speaker volume (3 stages)		Low / Low / Middle / High						OPTION
	1		No. 1	0 / 0 / 1 / 1	1					
	2		No. 2	0 / 1 / 0 / 1	0					
	3	Reserved			0					
	4	Reserved			0					
	5	Reserved			0					
	6	Reserved			0					
	7	Reserved			0					
	8	Reserved			0					
SW I J3	1	Reserved			0					
		Communication results printout (Transaction report)		E/T/M / Send only / Always / No print / Err only						OPTION
	2		No. 2	0 / 0 / 0 / 0 / 1	1					
	3		No. 3	0 / 0 / 1 / 1 / 0	0					
	4		No. 4	0 / 1 / 0 / 1 / 0	0					
	5	Reserved			0					
	6	Reserved			0					
	7	Reserved			0					
	8	Reserved			0					
SW I K1	1	Reserved			0					
	2	Reserved			0					
	3	Reserved			0					
	4	Reserved			0					
	5	Reserved			0					
	6	Reserved			0					
	7	Reserved			0					
	8	Reserved			0					

SW NO.	DATA NO.	ITEM	Switch setting and function						Initial setting					Remarks
			1			0			TH					
SW L1	1	Reserved							0					
	2	Reserved							0					
	3	Reserved							0					
	4	Reserved							0					
	5	Cut off mode (COPY mode)	Yes			No			1					OPTION
	6	A4 paper enable	Enable			Disable			1					
	7	LEGAL & LETTER paper enable	Enable			Disable			0					
	8	Reserved							0					
SW L2		Paper set size		LETTER		LEGAL		A4						
	1		No. 1	0		0		1	1					
	2		No. 2	0		1		0	0					
	3	Automatic reduce of receive	Auto			100 %			1					OPTION
		Print contrast		Normal	Lighter	Light	Dark	Darker						OPTION
	4		No. 4	0	0	0	0	1	1					
	5		No. 5	0	0	1	1	0	0					
	6		No. 6	0	1	0	1	0	0					
	7	Reception reduction ratio in case of memory full	100 %			93 %			0					
	8	Reserved							0					
SW M1		Default speaker volume in speaker monitor function		Low	Low	High	High							
	1		No. 1	0	0	0	0		0					
	2		No. 2	0	0	1	1		0					
	3		No. 3	0	1	0	1		0					
	4	Reserved							0					
	5	Reserved							0					
	6	Reserved							0					
	7	Reserved							0					
	8	Reserved							0					
SW M2	1	Reserved							0					
	2	Reserved							0					
	3	Reserved							0					
	4	Reserved							0					
	5	Reserved							0					
	6	Reserved							0					
	7	Reserved							0					
	8	Reserved							0					
SW N1	1	Reserved							0					
	2	Reserved							0					
	3	Reserved							0					
	4	Reserved							0					
	5	Reserved							0					
	6	Reserved							0					
	7	Reserved							0					
	8	Reserved							0					
SW N2	1	Reserved							0					
	2	Reserved							0					
	3	Reserved							0					
	4	Reserved							0					
	5	Reserved							0					
	6	Reserved							0					
	7	Reserved							0					
	8	Reserved							0					

SW NO.	DATA NO.	ITEM	Switch setting and function		Initial setting					Remarks
			1	0	TH					
SW I N3	1	Reserved			0					
	2	Reserved			0					
	3	Reserved			0					
	4	Reserved			0					
	5	Reserved			0					
	6	Reserved			0					
	7	Reserved			0					
	8	Reserved			0					
SW I O1	1	Reserved			0					
	2	Reserved			0					
	3	Reserved			0					
	4	Reserved			0					
	5	Reserved			0					
	6	Reserved			0					
	7	Reserved			0					
	8	Reserved			0					
SW I O2	1	Reserved			0					
	2	Reserved			0					
	3	Reserved			0					
	4	Reserved			0					
	5	Reserved			0					
	6	Reserved			0					
	7	Reserved			0					
	8	Reserved			0					
SW I O3	1	Reserved			0					
	2	Reserved			0					
	3	Reserved			0					
	4	Reserved			0					
	5	Reserved			0					
	6	Reserved			0					
	7	Reserved			0					
	8	Reserved			0					
SW I O4	1	Reserved			0					
	2	Reserved			0					
	3	Reserved			0					
	4	Reserved			0					
	5	Reserved			0					
	6	Reserved			0					
	7	Reserved			0					
	8	Reserved			0					
SW I O5	1	Reserved			0					
	2	Reserved			0					
	3	Reserved			0					
	4	Reserved			0					
	5	Reserved			0					
	6	Reserved			0					
	7	Reserved			0					
	8	Reserved			0					
SW I O6	1	Reserved			0					
	2	Reserved			0					
	3	Reserved			0					
	4	Reserved			0					
	5	Reserved			0					
	6	Reserved			0					
	7	Reserved			0					
	8	Reserved			0					

• Soft switch function description

SW-A1 No. 1 Protect from echo

Used to protect from echo in reception.

SW-A1 No. 2 Forced 4800BPS reception

When line conditions warrant that receptions take place at 4800 BPS repeatedly.

It may improve the success of receptions by setting at 4800BPS.

This improves the receiving document quality and reduces handshake time due to fallback during training.

SW-A1 No. 3 Footer print

When set to "1", the date of reception, the sender machine No., and the page No. are automatically recorded at the end of reception.

SW-A1 No. 4 Length limitation of copy/send/receive

Used to set the maximum page length.

To avoid possible paper jam, the page length is normally limited to 0.6 meter for copy or transmit, and 1 meters for receive.

It is possible to set it to "No limit" to transmit a long document, such as a computer print form, etc. (In this case, the receiver must also be set to no limit.)

SW-A1 No. 5 CSI transmission

(CSI TRANSMISSION) is a switch to set whether the machine sends or does not send the signal (CSI signal) informing its own telephone No. to the remote fax machine when information is received. When "nonsending" is set, the telephone No. is not output on the remote transmitting machine if the remote transmitting machine has the function to display or print the telephone No. of receiving machine, using this CSI signal.

SW-A1 No. 6 DIS receive acknowledgment during G3 transmission

Used to make a choice of whether reception of DIS (NSF) is acknowledged after receiving two DISs (NSFs) or receiving one DIS (two NSFs). It may be useful for overseas communication to avoid an echo suppression problem, if set to 1.

SW-A1 No. 7 Non-modulated carrier for V29 transmission mode

Though transmission of a non-modulated carrier is not required for transmission by the V29 modem according to the CCITT recommendation, it may be permitted to a send non-modulated carrier before the image signal to avoid an echo suppression problem. It may be useful for overseas communication to avoid an echo suppression problem, if set to 1.

SW-A1 No. 8 EOL (End Of Line) detect timer

Used to make a choice of whether to use the 25-second or 13-second timer for detection of EOL.
This is effective to override communication failures with some facsimile models that have longer EOL detection.

SW-A2 No. 1 ~ No. 4 Modem speed

Used to set the initial modem speed. The default is 9600BPS.
It may be necessary to program it to a slower speed when frequent line fallback is encountered, in order to save the time required for fallback procedure.

SW-A2 No. 5 Sender's information transmit

(SENDER'S INFORMATION TRANSMISSION) is a switch to set the function to print the content of HEADER PRINT described in the passcode list at the front end of receiver's original when original is sent to the remote machine.

If this switch is set to "NO", the HEADER PRINT is not output at the receiving machine.

SW-A2 No. 6 H2 mode

Used to determine reception of H2 mode (15 sec transmission mode). When set to OFF, H2 mode reception is inhibited even though the transmitting machine has H2 mode function.

SW-A2 No. 7 Communication error treatment in RTN sending mode (Reception)

Used to determine communication error treatment when RTN is sent by occurrence of a received image error in G3 reception. When it is set to "1", communication error is judged as no error.

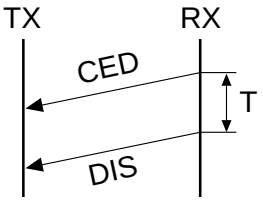
SW-A2 No. 8 CNG transmission

When set to "0" , this model allows CNG transmission by pressing the Start key in the key pad dialing mode. When set to "1", CNG transmission in the key pad dialing mode cannot be performed. In either case. CNG transmission can be performed in the auto dial mode.

SW-A3 No. 1, No. 2 CED tone signal interval

For international communication, the 2100Hz CED tone may act as an echo suppression switch, causing a communication problem.

Though SW-A3 No. 1 and No. 2 are normally set to 0, this setting is used to change the time between the CED tone signal to eliminate the communication caused by echo.



SW-A3 No. 3 MR Coding

MR Coding is enable.

SW-A3 No. 4 ~ No. 8 Reserved
Set to "0".

SW-A4 No. 1 ~ No. 5 Signal transmission level

Used to control the signal transmission level in the range of-0dB to-31dB.

SW-A4 No. 6 Protocol monitor (Error print)

If set to "1", protocol is printed at communication error.

SW-A4 No. 7 Protocol monitor

Normally set to "0". If set to "1", communication can be checked, in case of trouble, without using a G3 tester or other tools.
When communication FSK data transmission or reception is made, the data is taken into the buffer. When communication is finished, the data is analyzed and printed out. When data is received with the line monitor (SW-A4 No. 8) set to "1" the reception level is also printed out.

SW-A4 No. 8 Line monitor

Normally set to "0". If set to "1", the transmission speed and the reception level are displayed on the LCD. Used for line tests.

SW-A5 No. 1, No. 2 Digital line equalization setting (Reception)

Line equalization when reception is to be set according to the line characteristics.
Setting should be made according to distance between the telephone and the telephone company central switching station.

SW-A5 No. 3, No. 4 Digital line equalization setting (Transmission)

Line equalization when transmitter is to be set according to the line characteristics.
Setting should be made according to distance between the telephone and the telephone company central switching station.

SW-A5 No. 5, No. 6 Reserved

Set to "0".

SW-A5 No. 7 Error criterion

Used to select error criterion for sending back RTN when receiving image data.

SW-A5 No. 8 Anti junk fax check

When using the Anti junk fax function, set to "1".

SW-A6 No. 1 Reserved

Set to "0".

SW-A6 No. 2 End buzzer

Setting this bit to 0 will disable the end buzzer (including the error buzzer/ on-hook buzzer).

SW-A6 No. 3 Disconnect the line when DIS is received in RX mode

Bit1= 0: When DIS signal is received during RX mode, the line is disconnected immediately.

Bit1= 1: When DIS signal is received during RX mode, the line is disconnected on the next tone.

SW-A6 No. 4 Equalizer freeze control (MODEM)

This switch is used to perform reception operation by fixing the equalizer control of modem for the line which is always in an unfavorable state and picture cannot be received.

* Usually, the control is executed according to the state of line where the equalizer setting is changed always.

SW-A6 No. 5 Equalizer freeze control 7200BPS only

Setting which specifies SW-A3 No. 6 control only in the condition of 7200BPS modem speed.

SW-A6 No. 6 CNG transmission in manual TX mode

When set to "1", fax transmit the CNG signal in case of manual transmission mode (User press the START key after waiting for the fax answering signal from handset or speaker).

SW-A6 No. 7 Initial compression scheme for sharp fax in TX mode

When set to "0", if the other fax is Sharp model, fax transmit the document by H2 mode. When set to "1", even if the other fax is Sharp model, fax transmit the document by MR mode.

SW-A6 No. 8 Modem speed automatic fallback when RX level is under -40dBm

When set to "1", if fax signal level is under -40dBm during reception, machine selects the slower modem speed automatically.
It is effective when noises occur on the received document due to the long distance communications.

SW-B1 No. 1 ~ No. 4 Recall interval

Choice is made for a redial interval for speed and rapid dial calls.
Use a binary number to program this. If set to 0 accidentally, 1 will be assumed.

SW-B1 No. 5 ~ No. 8 Recall times

Choice is made as to how many redials there should be.

SW-B2 No. 1 Dialing pause (sec/pause)

Pauses can be inserted between telephone numbers of direct dial connection. Selection of 4 sec or 2 sec pause is available.

SW-B2 No. 2 Dial tone detection (before auto dial)

Used to set YES/NO of dial tone detection in auto dialing.

SW-B2 No. 3 Reserved

Set to "0".

SW-B2 No. 4 Busy tone detection (after auto dial)

Used to set busy tone detection in auto dialing.

SW-B2 No. 5, No. 6 Waiting time after dialing

This is time waiting for the opponent's signals after dialing.

SW-B2 No. 7, No. 8 Reserved

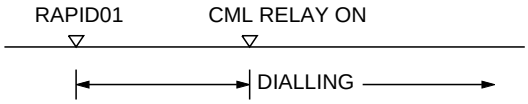
Set to "0".

SW-B3 No. 1 ~ No. 5 Reserved

Set to "0".

SW-B3 No. 6, No. 7 Auto dial mode Delay timer of before line connect

Delay time between the dial key input and line connection under the auto dial mode.



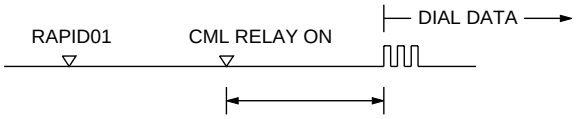
No.6	No.7	
0	0	0sec
0	1	1.5sec
1	0	3.0sec
1	1	4.5sec

SW-B3 No. 8 Hold key

Used to set YES/NO of holding function by the Hold key.

SW-B4 No. 1, No. 2 Auto dial mode Delay timer of after line connect

Delay time between the line connection and dial data output under the auto dial mode.



No.1	No.2	
0	0	1.7sec
0	1	3.0sec
1	0	3.6sec
1	1	4.0sec

SW-B4 No. 3 Dial mode

When using the pulse dial, set to 1. When using the tone dial, set to 0.

SW-B4 No. 4 Pulse → Tone change function by ✳ key

When setting to 1, the mode is changed by pressing the ✳ key from the pulse dial mode to the tone dial mode.

SW-B4 No. 5 Dial pulse make/break ratio (%)

When using the 33% make ratio pulse dial, set to "0".
When using the 40% make ratio pulse dial, set to "1".

SW-B4 No. 6, No. 7 Reserved

Set to "0".

SW-B4 No. 8 Recalling fixed only one time when dialing was unsuccessful without detecting busy tone signal

When dialing results in failure since the busy tone cannot be detected, recalling is fixed to one time.

Supplementary explanation
If time-out termination is made when dialing, only single recall is possible even if the setting time of recalls (SW-B1 No. 5 - No. 8) has been set to some times. This soft switch is added in order to meet FCC.

SW-B5 No. 1 ~ No. 5 DTMF signal transmission level (Low)

The transmission level of DTMF signal is adjusted. (lower frequency)

00000: 0dBm

↓

11111: -15.5dBm (-0.5dBm x 31)

SW-B5 No. 6 ~ No. 8 Reserved

Set to "0".

SW-B6 No. 1 ~ No. 5 DTMF signal transmission level (High)

The transmission level of DTMF signal is adjusted. (higher frequency)

00000: 0dBm

↓

11111: -15.5 dBm (-0.5dBm x 31)

SW-B6 No. 6 ~ No. 8 Reserved

Set to "0".

SW-C1 No. 1, No. 2 Reading slice (Binary)

Used to determine the set value of reading density in standard/fine mode. The standard setting is "00" (Factory setting is "00")

SW-C1 No. 3, No. 4 Reading slice (Half tone)

Used to determine the set value of reading density in half tone mode. The standard setting is "00" (Factory setting is "00")

SW-C1 No. 5 Line density selection

Used to set the transmission mode which is automatically selected when the Resolution key is not pressed. In the copy mode, however, the fine mode is automatically selected unless the Resolution key is manually set to another mode.

SW-C1 No. 6 Reserved

Set to "0".

SW-C1 No. 7 MTF correction in half tone mode

This allows selection of MTF correction (dimness correction) in the half tone mode.
When "NO" (=1) is selected, the whole image becomes soft and mild. Clearness of characters will be reduced. Normally set to "YES" (=0).

SW-C1 No. 8 Reserved

Set to "0".

SW-D1 No. 1 ~ No. 4 Number of rings for auto receive

When the machine is set in the auto receive mode, the number of rings before answering can be selected. It may be set from one to four rings using a binary number. Since the facsimile telephone could be used as an ordinary telephone if the handset is taken off the hook, it should be programmed to the user's choice. If the soft switch was set to 1, direct connection is made to the facsimile. If a facsimile calling beep was heard when the handset is taken off the hook, press the START key and put the handset on the hook to have the facsimile start receiving. If it was set to 0 accidentally, receive ring is set to 1.

NOTE: If the machine is set to answer after a large number of rings, it may not be able to receive faxes successfully. If you have difficulty receiving faxes, reduce the number of rings to a maximum of 6.

SW-D1 No. 5 Automatic switching manual to auto receive mode

This soft switch is used to select whether the machine should switch to the auto receive mode after 5 rings in the manual receive mode or remain in the same way as SW-D1 No. 1, No. 2, No. 3 and No. 4 "0"1"0"1"(5 rings).

SW-D1 No. 6 Reserved

Set to "0".

SW-D1 No. 7, No. 8 CI detect frequency

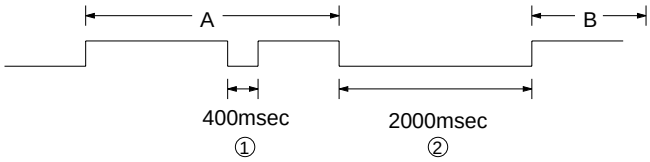
Detection frequency of ring signal for auto reception is set.
When set to No. 6=0, No. 7=0, frequency is set to PTT recommendation.
When set to No. 6=0, No. 7=1, frequency is set to 11.5Hz or more.
When set to No. 6=1, No. 7=0, frequency is set to 13.0Hz or more.
When set to No. 6=1, No. 7=1, frequency is set to 20.0Hz or more.

SW-D2 No. 1 ~ No. 8 Reserved

Set to "0".

SW-D3 No. 1 ~ No. 5 CI off detection timer (0-1550ms setting by 50ms step)

Set the minimum time period of CI signal interruption which affords to be judged as a CI OFF section with 50ms steps.
(Example)



01110 (50ms ~ 14):
700ms (CI interruption>700ms:Judged as a CI OFF section)
The section 1 is not judged as a CI OFF section, the CI signal A is counted as one signal.
The section 2 is judged as a CI OFF section, the CI signal B is considered as the second signal.

00111 (50ms ~ 7):
350ms (CI interruption>350ms:Judged as a CI OFF section)
The section 1 is judged as a CI OFF section, and the CI signal A is counted as two signals.
The section 2 is judged as a CI OFF section, and the CI signal B is considered as the third signal.

SW-D3 No. 6 ~ No. 8 Reserved

Set to "0".

SW-E1 No. 1 Tel/Fax Automatic switching mode

Used to set auto TEL/FAX switching mode or to set the normal fax mode.

SW-E1 No. 2, No. 3 Pseudo ringing time at the tel/fax automatic switching mode

Choise is made as to how long to rumble the dummy ringer on TEL/FAX automatic switching mode.

SW-E1 No. 4 Number of CNG signal detection at the tel/fax automatic switching mode

Used for detection of CNG in one or two tones in the TEL/FAX automatic switching mode.

SW-E1 No. 5 CNG detection when TEL/FAX mode

The switch which sets the time from the start of CNG detection to the end of detection.

SW-E1 No. 6 Pseudo ringer ON/OFF cycle

When set to "0", pseudo ringer is 1 sec ON and 2 sec OFF cycles.
When set to "1", pseudo ringer is 1 sec ON and 4 sec OFF cycles.

SW-E1 No. 7 Post answer tone (TEL/FAX mode)

When set to "0", machine send the tones in TEL/FAX auto changeover mode.

SW-E1 No. 8 Type of post answer tone

When set to "0", post answer tone is 800Hz single tone.
When set to "1", post answer tone is 880Hz/988Hz/1046Hz(LA-SI-DO) tone.

SW-E2 No. 1 ~ No. 4 Pseudo ringer sound volume (0 ~ -15dBm setting by 1dBm step)

Used to adjust the sound volume of pseudo ringer to the line (ring back tone) generated on selecting TEL/FAX.

SW-E2 No. 5 ~ No. 8 Post answer tone transmission level (0 ~ -15dBm setting by 1dBm step)

Used to adjust the sound volume of post answer tone to the line generated on selecting TEL/FAX.

SW-E3 No. 1 Disconnect the line when DTMF "#" is received during TEL/FAX automatic switching mode

When set to "1", if machine detects the DTMF code # during tel/fax automatic switching mode, stop the pseudo ringer and disconnect the line.
This effect when operator wants to stop the pseudo ringer from extension phone connected with parallel.

SW-E3 No. 2 ~ No. 8 Reserved

Set to "0".

SW-F1 No. 1, No. 2 DTMF detect time

Used to set detect time of DTMF (Dual Tone Multi Frequency) used in remote reception (5 ✳ ✳).

The longer the detect time is, the less the error detection is caused by noises.

SW-F1 No. 3 Protection of remote reception (5 ✳ ✳) detect

Used to set the function of remote reception (5 ✳ ✳). When set to "1", the remote reception function is disabled.

SW-F1 No. 4 Remote reception with GE telephone

(Corresponding to TEL made by GE) P. B. X.

"1": Compatible with TEL mode by GE

"0": Not compatible

- When sending (5 ✳ ✳) for remote reception with a GE manufactured telephone remote reception may not take place because of special specifications in their DTMF.
  To overcome this, a soft SW is provided to change the modem setting to allow for remote reception.
- If this soft SW is set to "1", other telephone sets may be adversely affected.

SW-F1 No. 5 ~ No. 8 Remote operation code figure by external TEL (0 ~ 9)

Remote operation codes can be changed from 0 through 9. If set to greater than 9, it defaults to 9. The "5 ✳ ✳ " is not changed.
Ex-7 ✳ ✳ (Default: 5 ✳ ✳)

SW-F2 No. 1 CNG detection in STAND-BY mode

When setting to "1", the CNG signal detection function during stand-by stops.

SW-F2 No. 2, No. 3 Number of CNG detect (AM mode)

Used for detection of CNG in 1 to 4 pulses.

SW-F2 No. 4, No. 5 Number of CNG detect (STAND-BY mode)

Used for detection of CNG in 1 to 4 pulses.

SW-F2 No. 6 ~ No. 8 Reserved

Set to "0".

SW-G1 No. 1 ~ No. 4 Quiet detect time

When an answering machine is connected, if a no sound state is detected for a certain period of time, the machine judges it as a transmission from a facsimile machine and automatically switches to the FAX mode.

SW-G1 No. 5 ~ No. 8 Quiet detect start timing

Inserts a pause before commencing quiet detection.

SW-G2 No. 1 ~ No. 8 Reserved

Set to "0".

SW-G3 No. 1, No. 2 OGM detect timer

This is used to change the OGM detection time for answering machine hook up detection.

SW-G3 No. 3, No. 4 Reserved

Set to "0".

SW-G3 No. 5, No. 6 Section time of quiet detection

The switch which sets the time from the start of detection function to the end of the function.

SW-G3 No. 7 Choice after quiet detect

"0": The reception begins when no sound is detected in A.M. mode.

"1": The DIS signal is transmitted only once when no sound is detected in A.M. mode.

SW-G3 No. 8 Reserved

Set to "0".

SW-H1 No. 1, No. 2 Busy tone detection ON/OFF time (Lower duration)

The initial value of detection is set according to electric condition.

The set value is changed according to the local switch board. (Erroneous detection of sound is reduced.)

Normally the upper limit is set to 900msec, and the lower limit to 200msec.

If erroneous detection is caused by sound, etc., adjust the detection range.

The lower limit can be set in the range of 350msec to 150msec.

SW-H1 No. 3, No. 4 Busy tone detection ON/OFF time (Upper duration)

Similarly to SW-H1 No. 1, the set value can be varied.

The upper limit can be set in the range of 650msec to 2700msec.

SW-H1 No. 1	SW-H1 No. 2	SW-H1 No. 3	SW-H1 No. 4	Detection range
0	0	0	0	150msec ~ 650msec
0	0	0	1	150msec ~ 900msec
0	0	1	0	150msec ~ 1500msec
0	0	1	1	150msec ~ 2700msec
0	1	0	0	200msec ~ 650msec
0	1	0	1	200msec ~ 900msec
0	1	1	0	200msec ~ 1500msec
0	1	1	1	200msec ~ 2700msec
1	0	0	0	250msec ~ 650msec
1	0	0	1	250msec ~ 900msec
1	0	1	0	250msec ~ 1500msec
1	0	1	1	250msec ~ 2700msec
1	1	0	0	350msec ~ 650msec
1	1	0	1	350msec ~ 900msec
1	1	1	0	350msec ~ 1500msec
1	1	1	1	350msec ~ 2700msec

SW-H1 No. 5 Reserved

Set to "0".

SW-H1 No. 6 Busy tone detect continuation sound detect (during ICM: for internal A.M.)

Used to select detection of the continuous sound of certain frequency.

SW-H1 No. 7 Reserved

Set to "0".

SW-H1 No. 8 Busy tone detect intermittent sound detect (during ICM: for internal A.M.)

Used to select detection of the intermittent sound of certain frequency.

SW-H2 No. 1, No. 2 Busy tone detection pulse number

Used to set detection of Busy tone intermittent sounds.

SW-H2 No. 3 Fax switching when A.M. full

If the answering machine's memory (tape) is full and there is no response, the machine automatically switches to Fax reception.

SW-H2 No. 4 ~ No. 7 Reserved

Set to "0".

SW-H2 No. 8 Busy tone continuous sound detect time
Set detecting time busy tone continuous sound for 5 or 10 seconds.

SW-I1 No. 1 ~ No. 8 Reserved
Set to "0".

SW-I2 No. 1 ~ No. 8 Reserved
Set to "0".

SW-I3 No. 1 ~ No. 8 Reserved
Set to "0".

SW-I4 No. 1 ~ No. 8 Reserved
Set to "0".

SW-I5 No. 1 ~ No. 8 Reserved
Set to "0".

SW-I6 No. 1 ~ No. 8 Reserved
Set to "0".

SW-I7 No. 1 ~ No. 8 Reserved
Set to "0".

SW-J1 No. 1, No. 2 Reserved
Set to "0".

SW-J1 No. 3 Sender's phone number setting
Used to make a choice of whether the registered sender's phone number can be changed or not. If the switch is set to "1", new registration of the sender's phone number is disabled to prevent accidental wrong input.

SW-J1 No. 4 ~ No. 6 Reserved
Set to "0".

SW-J1 No. 7, No. 8 Ringer volume
Used to adjust ringing volume.

SW-J2 No. 1, No. 2 Speaker volume (3 stages)
Used to adjust sound volume from a speaker.

SW-J2 No. 3 ~ No. 8 Reserved
Set to "0".

SW-J3 No. 1 Reserved
Set to "0".

SW-J3 No. 2 ~ No. 4 Communication result printout (Transaction report)
Every communication, the result can be output. As usual, it is set to print the timer sending communication error alone. If No. 2: 0 No. 3: 1 No. 4: 0 are set, printing is always on (printed even if it is normally ended).

000: Error, timer and memory sending/receiving

001: Sending

010: Continuous printing

011: Not printed

100: Communication error

SW-J3 No. 5 ~ No. 8 Reserved
Set to "0".

SW-K1 No. 1 ~ No. 8 Reserved
Set to "0".

SW-L1 No. 1 ~ No. 4 Reserved
Set to "0".

SW-L1 No. 5 Cut off mode (COPY mode)
Whether the excessive part is printed on the next recording paper or discarded is selected to copy a document which is longer than the recording paper.

SW-L1 No. 6 A4 Paper enable
The use of recording paper of A4 is enabled.

SW-L1 No. 7 LEGAL and LETTER paper enable
The use of recording paper of LEGAL and LETTER is enabled.

SW-L1 No. 8 Reserved
Set to "0".

SW-L2 No. 1, No. 2 Paper set size
At present size of the recording paper.

SW-L2 No. 3 Automatic reduce of receive
If set to 1, it is reduced automatically when receiving.

SW-L2 No. 4 ~ No. 6 Print contrast
Used for adjustment of print contrast.

SW-L2 No. 7 Reception reduction ratio in case of memory full
This model is designed so that the print is started according to the setting of SW-L2 No.3 when reception of one page is completed. However, if the memory is filled with data before completion of reception of one page, the print is started with the reduction ratio which is set with this switch.

SW-L2 No. 8 Reserved
Set to "0".

SW-M1 No. 1 ~ No. 3 Default speaker volume in speaker monitor function
When set to "000" or "001", function of monitoring phone conversations from speaker is started with "Low" level speaker volume.

SW-M1 No. 4 ~ No. 8 Reserved
Set to "0".

SW-M2 No. 1 ~ No. 8 Reserved
Set to "0".

SW-N1 No. 1 ~ No. 8 Reserved
Set to "0".

SW-N2 No. 1 ~ No. 8 Reserved
Set to "0".

SW-N3 No. 1 ~ No. 8 Reserved
Set to "0".

SW-O1 No. 1 ~ No. 8 Reserved
Set to "0".

SW-O2 No. 1 ~ No. 8 Reserved
Set to "0".

SW-O3 No. 1 ~ No. 8 Reserved
Set to "0".

SW-O4 No. 1 ~ No. 8 Reserved
Set to "0".

SW-O5 No. 1 ~ No. 8 Reserved
Set to "0".

SW-O6 No. 1 ~ No. 8 Reserved
Set to "0".

[3] Troubleshooting

Refer to the following actions to troubleshoot any of the problems mentioned in 1-4.

[1] A communication error occurs.

[2] Image distortion produced.

[3] Unable to do overseas communication.

[4] Communication speed slow due to FALLBACK.

- Increase the transmission level SOFT SWITCH A4-1, 2, 3, 4, 5. May be used in case [1] [2] [3].
- Decrease the transmission level SOFT SWITCH A4-1, 2, 3, 4, 5. May be used in case [3].
- Apply line equalization SOFT SWITCH A5-1, 2. May be used in case [1] [2] [3] [4].
- Slow down the transmission speed SOFT SWITCH A2-1, 2, 3, 4. May be used in case [2] [3].
- Replace the TEL/LIU PWB. May be used in all cases.
- Replace the control PWB. May be used in all cases.

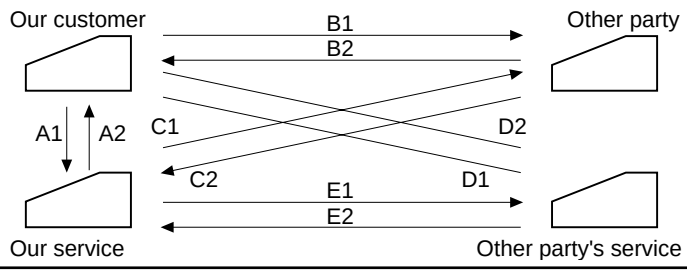
* If transmission problems still exist on the machine, use the following format and check the related matters.

TO: ATT: Ref.No. :

CC: ATT: Date :

FM: Dept :

Sign :

***** Facsimile communication problem *****			Ref.No.:
From: Mr.	Fax Tel No.:		Date:
Our customer	Name		Tel No.
	Address		Fax No.
	Contact person		Model name
Other party	Name		Tel No.
	Address		Fax No.
	Contact person		Model name
Problem mode	Line: Domestic / international	Model: G3	Phase: A, B, C, D.
	Reception / Transmission	Automatic reception / Manual reception	
		Automatic dialing / Manual dialing / Others	
Frequency:		%	ROM version:
Confirmation item			Please mark problem with an X. No problem is: 0.

A1	A2	B1	B2	C1	C2	D1	D2	E1	E2

Transmission level setting is ( ) dB at our customer

Transmission level ( ) dBm
Reception level ( ) dBm
By level meter at B1 and B2

Comment	
Countermeasure	

**** Please attach the G3 data and activity report on problem. ****

* Please complete this report before calling the “TAC” hotline if problem still occurs.

[4] Error code table

1. Communication error code table

G3 Transmission

Code	Final received signal	Error Condition (Receiver side)
0	Incomplete signal frame	Cannot recognize bit stream after flag
1	NSF, DIS	Cannot recognize DCS signal by echo etc. Cannot recognize NSS signal (FIF code etc)
2	CFR	Disconnects line during reception (carrier missing etc)
3	FTT	Disconnects line by fall back
4	MCF	Disconnects line during reception of multi page Cannot recognize NSS, DCS signal in the case of mode change
5	PIP or PIN	The line is hung up without replying to telephone request from the receiving party.
6	RTN or RTP	Cannot recognize NSS, DCS signal after transmit RTN or RTP signal.
7	No signal or DCN	No response in receiver side or DCN signal received* (transmitter side)
8	–	Owing to error in some page the error could not be corrected although the specified number of error retransmissions were attempted.
11	–	Error occurred after or while reception by the remote (receiving) machine was revealed to be impossible.
12	–	Error occurred just after fallback.
13	–	Error occurred after a response to retransmission end command was received.

G3 Reception

Code	Final received signal	Error Condition (Receiver side)
0	Incomplete signal frame	Cannot recognize bit stream after flag
1	NSS, DCS	Cannot recognize CFR or FTT signal Disconnects line during transmission (line error)
2	NSC, DTC	Cannot recognize NSS signal (FIF code etc)
3	EOP	Cannot recognize MCF, PIP, PIN, RTN, RTP signal
4	EOM	Cannot recognize MCF, PIP, PIN, RTN, RTP signal in the case of mode change
5	MPS	The line is hung up without replying to communication request.
6	PR1-Q	Cannot recognize PIP, PIN signal in the case of TALK request
7	No signal or DCN	No response in transmitter (cannot recognize DIS signal) or DCN signal received* (receiver side)
8	–	Error occurred upon completion of reception of all pages.
9	–	Error occurred when mode was changed or Transmission/Reception switching was performed.
10	–	Error occurred during partial page or physical page reception.
11	–	Error occurred after or during inquiry from the remote (transmitting) machine as to whether reception is possible or not.
12	–	Error occurred during or just after fallback.
13	–	Error occurred after the retransmission end command was received.

CHAPTER 3. MECHANISM BLOCKS

[1] General description

1. Document feed block and diagram

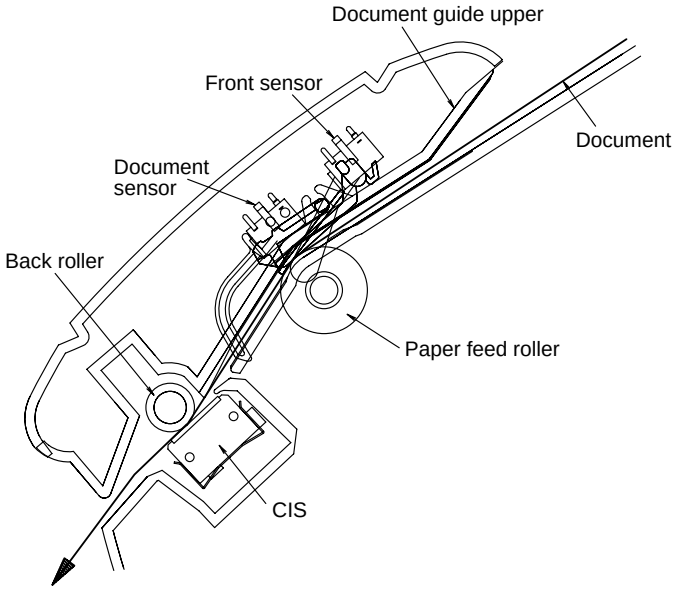


Fig. 1

2. Document feed operation

1) The original, which is set in the document hopper, feeds automatically when the front sensor is activated. This in turn activates the pulse motor which drives the document supply roller. The document stops when the lead edge is detected by the document sensor.
2) The lead edge of the original is fed a specified number of pulses after the lead edge of the document is detected for the reading process to begin.
3) The trailing edge of the original is fed a specific number of pulses after the trailing edge of the document deactivates the document sensor. The read process then stops and the original is discharged.
4) When the front sensor is in the OFF state (any document is not set up in the hopper guide), the drive will be stopped when the document is discharged.

3. Hopper mechanism

3-1. General view

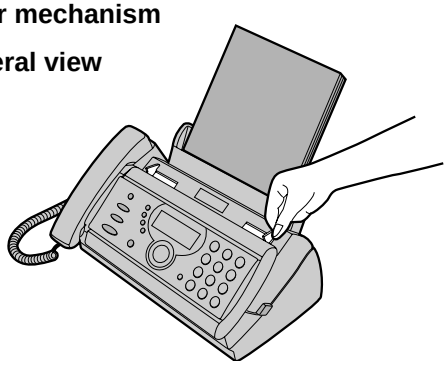


Fig. 2

The hopper section contains document guides that are used to adjust the hopper to the width of the original document. This ensures that the original feeds straight into the fax machine for scanning.
Document width: 148 mm to 216 mm (A5 longitudinal size to Letter longitudinal size)
NOTE: Adjust the document guide after setting up the document.

3-2. Automatic document feed

1) Use of the paper feed roller and separate plate ensures error-free transport and separation of documents. The plate spring presses the document to the paper feed roller to assure smooth feeding of the document.
2) Document separation method: Separate plate

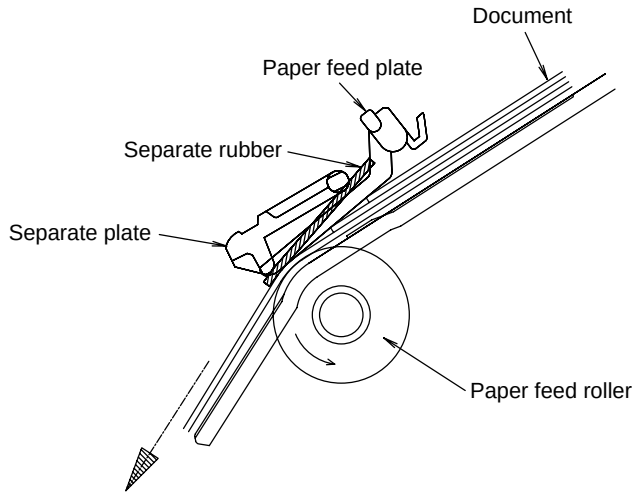


Fig. 3

3-3. Documents applicable for automatic feed

	10 sheets	1sheet(Manual)
Paper weight	70 kg 80 g/m^2	70 kg ~ 135 kg 52 g/m^2 ~ 157g/m^2
Paper thickness (ref.)	0.1 mm	0.1 mm ~ 0.18mm
Paper size	LGL (216 mm x 355.6 mm) A4 (210 mm x 297 mm) LTR (216 mm x 279 mm)	
Feeder capacity	A4/LTR: 10 sheets LGL : 1 sheet	

NOTE: Double-side coated documents and documents on facsimile recording paper should be inserted manually. The document feed quantity may be changed according to the document thickness.

Documents corresponding to a paper weight heavier than 70 kg (80 g/m^2) and lighter than 135 kg (157 g/m^2) are acceptable for manual feed.

Documents heavier than 135 kg (157 g/m^2) in terms of the paper weight must be duplicated on a copier to make it operative in the facsimile.

3-4. Loading the documents

1) Make sure that the documents are of suitable size and thickness, and free from creases, folds, curls, wet glue, wet ink, clips, staples and pins.
2) Place documents face down in the hopper.
   i) Adjust the document guides to the document size.
   ii) Align the top edge of documents and gently place them into the hopper. The first page under the stack will be taken up by the feed roller to get ready for transmission.

NOTES: 1) Curled edge of documents, if any, must be straightened out.
2) Do not load the documents of different sizes and/or thicknesses together.

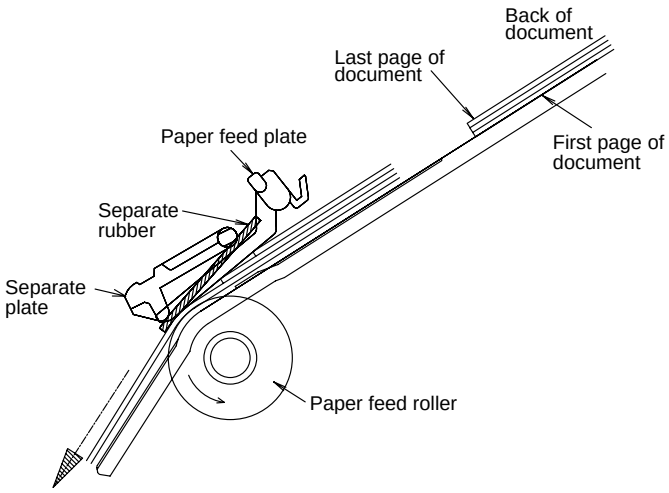


Fig. 4

3-5. Documents requiring use of the copy

1) Documents smaller than 148mm (W) x 140mm (L).
2) Documents thinner than the thickness of 0.06mm.
3) Documents containing creases, folds, or curls, especially those whose surface is curled (maximum allowable curl is 5mm).
4) Documents containing tears.
5) Carbon-backed documents. (Insert a white sheet of paper between the carbon back and the document carrier to avoid transfer of carbon to the carrier.)
6) Documents containing an easily separable writing material (e.g., those written with a lead pencil).
7) Transparent documents.
8) Folded or glued documents.

4. Document release

4-1. General

To correct a jammed document or to clean the document running surface, pull the insertion side of document center of the operation panel. To open the upper document guide, the operation panel must be opened first.

5. Recording block

5-1. Driving

In the drive mechanism, the rotating force of the pulse motor for both transmission and reception is transmitted to the paper supply roller, the recording paper feed roller and imaging film drive gear through the pulse motor axle gear, reduction gear and planetary gear.

5-2. Recording

This equipment employs the thermal transcription system which uses the thermal head imaging film.

1) Thermal head

The thermal head is composed of 2,016 heating elements in traverse line, and the resolution power is 8 dots/mm. The maximum speed is 10 ms/line.

2) Structure of recording mechanism

Recording is achieved by applying a suitable pressure to the thermal head through the imaging film of the recording paper feed roller and the recording paper.
The main scanning is electronically performed, and the sub-scanning is mechanically performed (by sending the recording paper with the recording paper feed roller).

3) Recording paper transfer sequence

a) The recording paper stored in the paper tray ass'y is fed with the PU roller, and is stopped when the P-IN sensor is turned on by sensing its lead edge.

b) Hereafter, the imaging film and recording paper are transferred with the recording paper feed roller, and thermal transcription is performed on the recording paper.

c) After thermal transcription, the imaging film is taken up by the roller on the take-up side, and the recording paper is discharged by the back roller.

Troubleshooting the density unevenness mainly results from the longitu-dinal misalignment of the thermal head to the heater line. Otherwise, the head is in uneven contact with the recording paper feed roller, or the imaging film is wrinkled.

The following items are described as the simplified checking method.

① Are the power and signal cables of the thermal head suitably treated?

② Does the same symptom appear even if the thermal head pressure spring is replaced?

③ Is the feed roller of the recording paper concentric? (Density is uneven at intervals.)

④ Does the same symptom appear even if the thermal head is replaced?

⑤ Is the imaging film stained or wrinkled?

5-3. General view

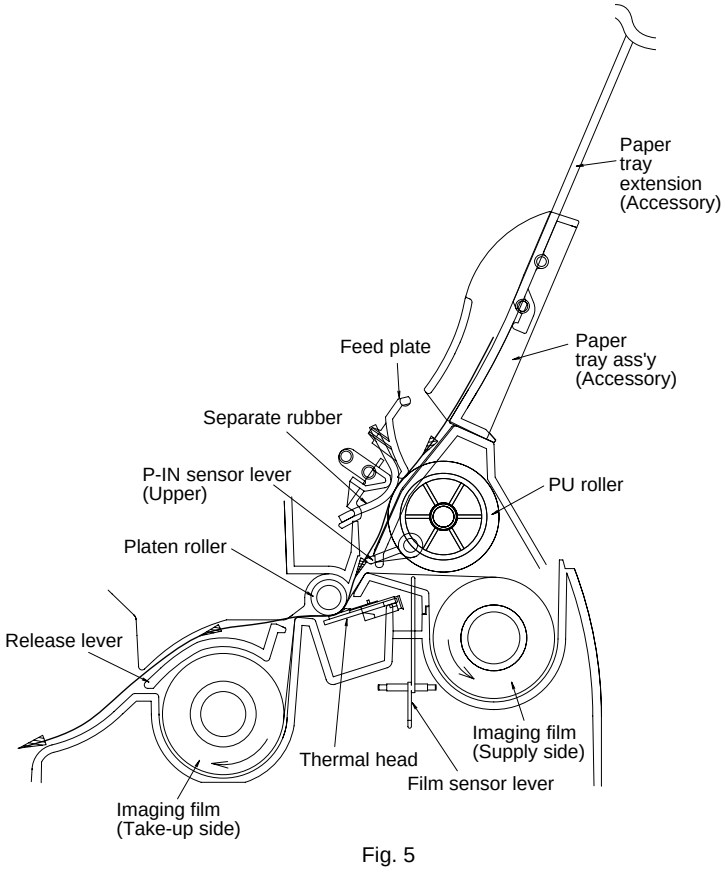


Fig. 5

[2] Disassembly and assembly procedures

- This chapter mainly describes the disassembly procedures. For the assembly procedures, reverse the disassembly procedures.
- Easy and simple disassembly/assembly procedures of some parts and units are omitted. For disassembly and assembly of such parts and units, refer to the Parts List.
- The numbers in the illustration, the parts list and the flowchart in a same section are common to each other.
- To assure reliability of the product, the disassembly and the assembly procedures should be performed carefully and deliberately.

1 Bottom plate, PWB's and drive unit

Parts list (Fig. 1)

No.	Part name	Q'ty	No.	Part name	Q'ty
1	Mechanism unit	1	10	Screw (3x10)	1
2	Screw (3×10)	5	11	Connector	1
3	Screw	1	12	TEL/LIU PWB unit	1
4	Washer	1	13	Connector	6
5	AC cord earth cable	1	14	Hook	1
6	Bottom plate	1	15	Control PWB unit	1
7	Hook	1	16	Wire holder PWB	1
8	Connector	1	17	Screw (3×10)	2
9	Power supply PWB unit	1	18	Drive unit	1

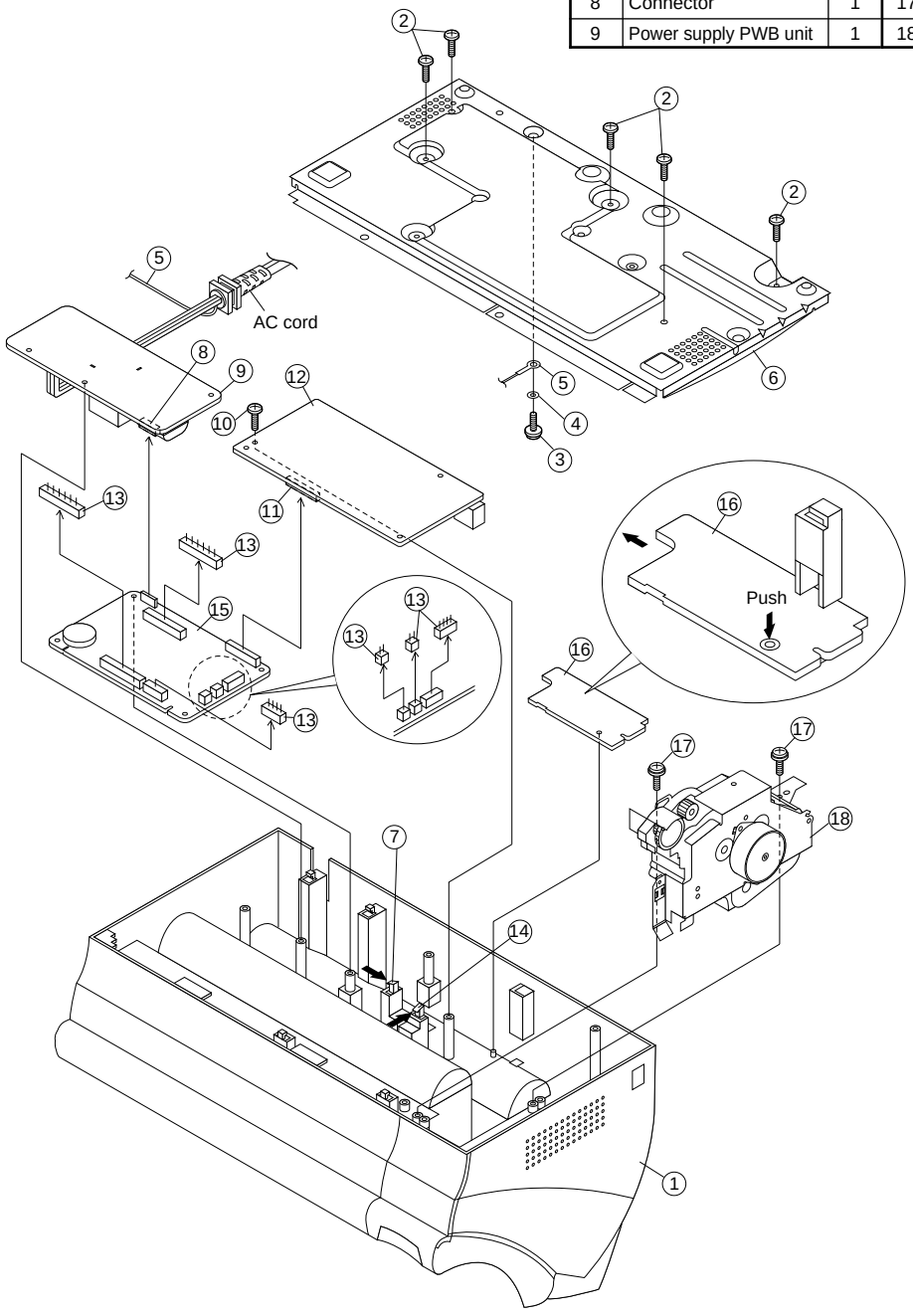


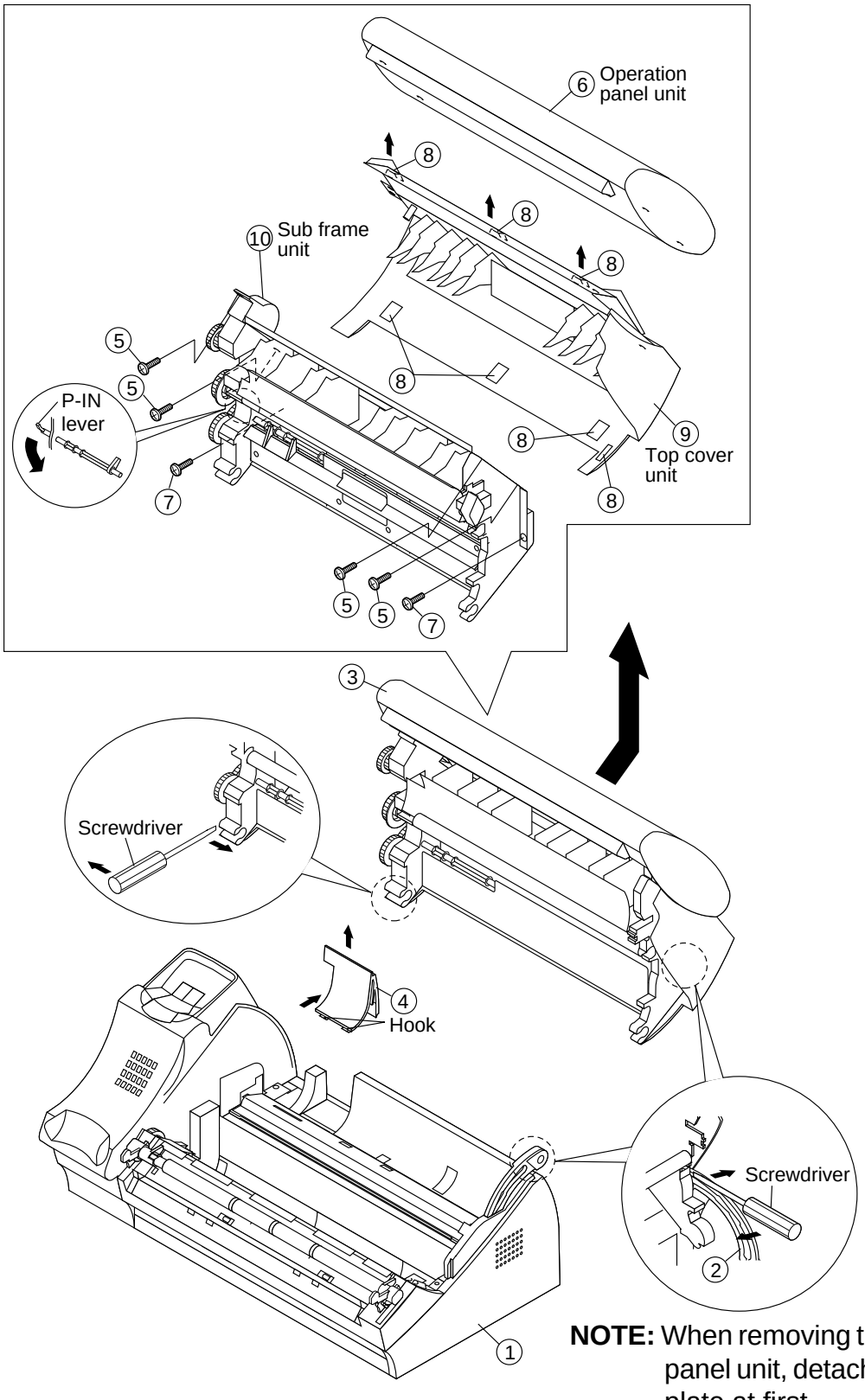
Fig. 1

2 Operation panel unit, top cover unit and sub frame unit

NOTE: For disassembly of the inside of the unit, refer to the exploded view in the parts guide.

Parts list (Fig. 2)

No.	Part name	Q'ty	No.	Part name	Q'ty
1	Mechanism unit	1	6	Operation panel unit	1
2	Stopper plate	1	7	Screw (3×10)	2
3	Operation panel unit/ top cover unit/ sub frame unit	1	8	Hook	7
			9	Top cover unit	1
4	Panel cable cover	1	10	Sub frame unit	1
5	Screw (3×12)	4			



NOTE: When removing the operation panel unit, detach the stopper plate at first.

Fig. 2

3 CIS unit and thermal head unit

NOTE: For disassembly of the inside of the unit, refer to the exploded view in the parts guide.

Parts list (Fig. 3)

No.	Part name	Q'ty	No.	Part name	Q'ty
1	Mechanism unit	1	4	Head cover	1
2	Screw (3×10)	1	5	Thermal head unit	1
3	CIS unit	1			

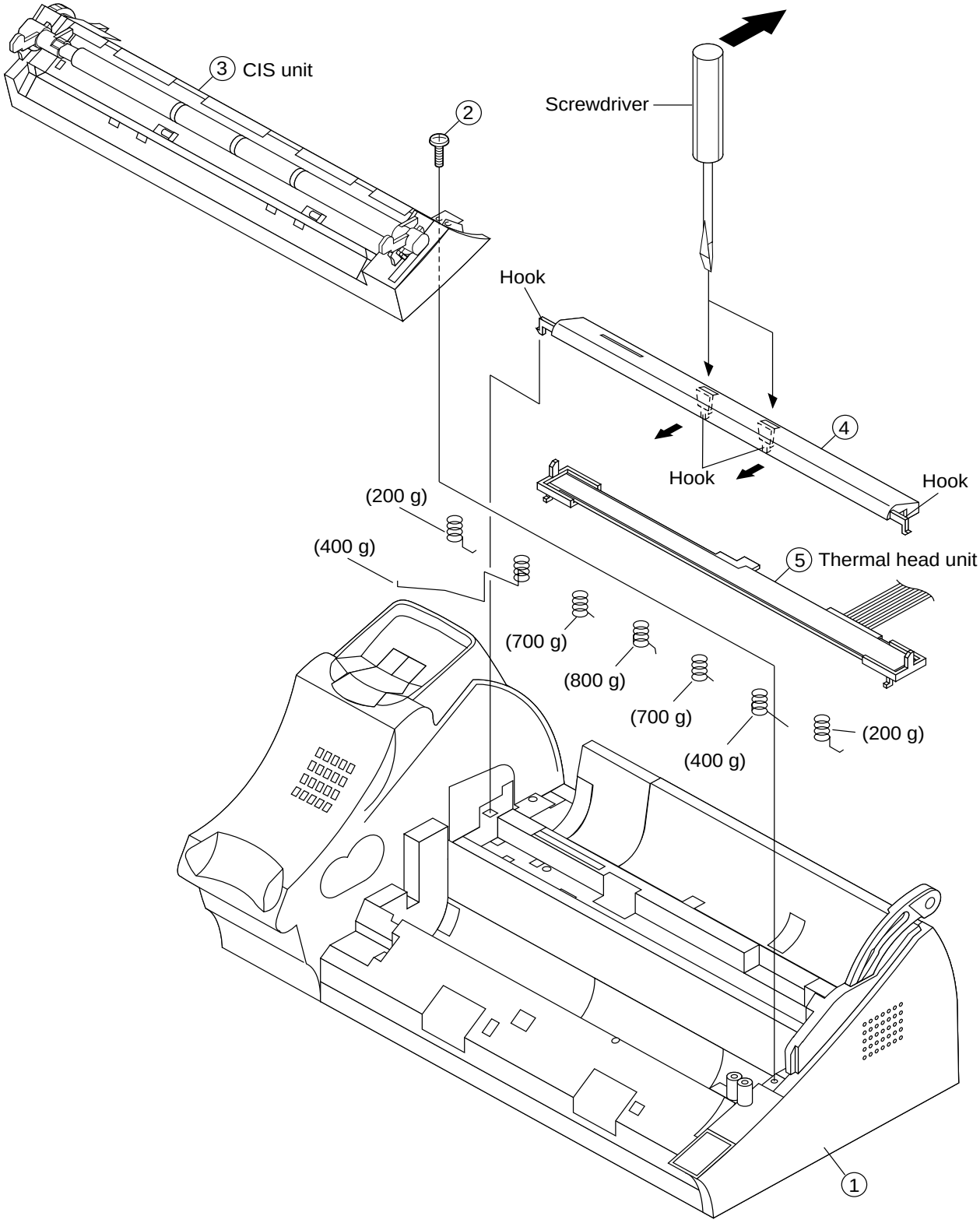
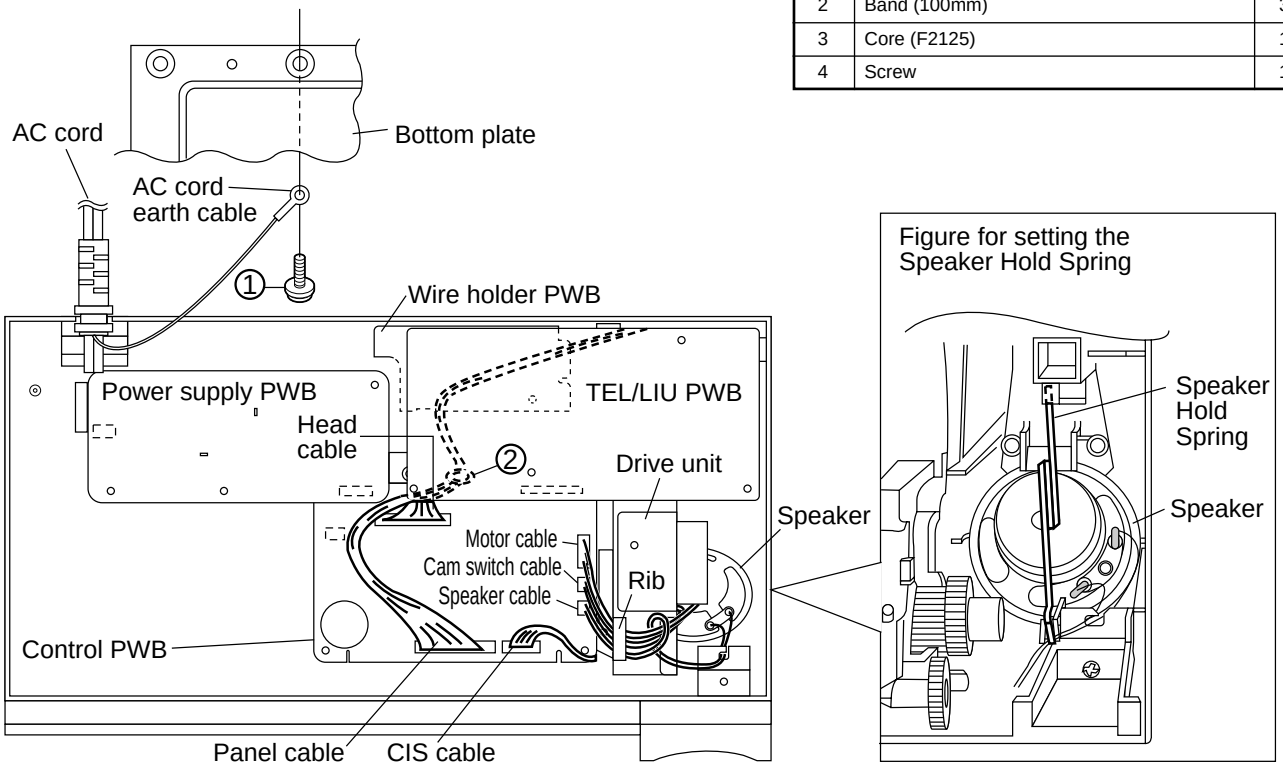


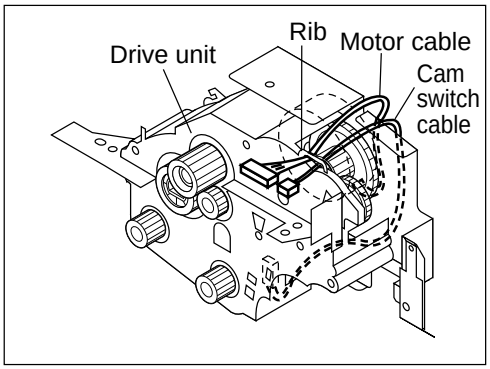
Fig. 3

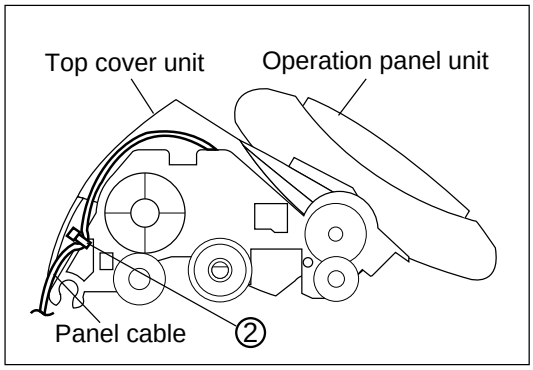
4 Wire treatment

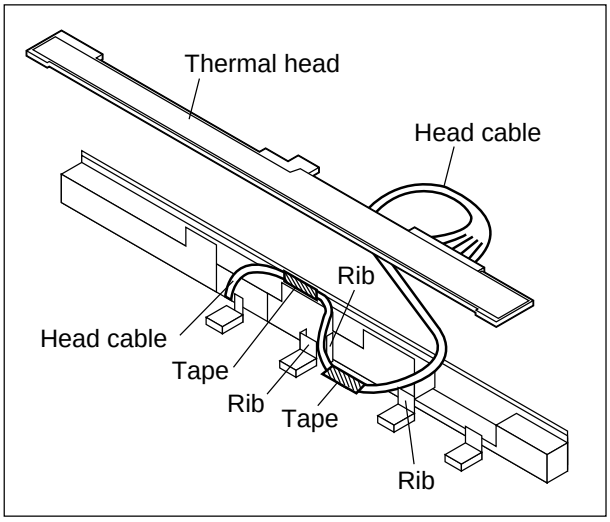
Parts list (Fig. 4)

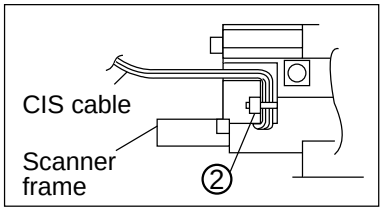
No.	Part name	Q'ty
1	Screw (4×6)	1
2	Band (100mm)	3
3	Core (F2125)	1
4	Screw	1











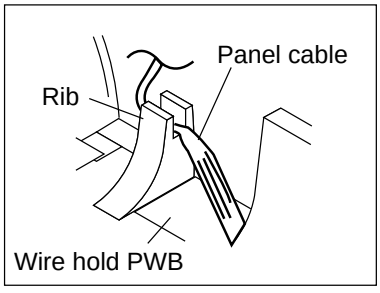
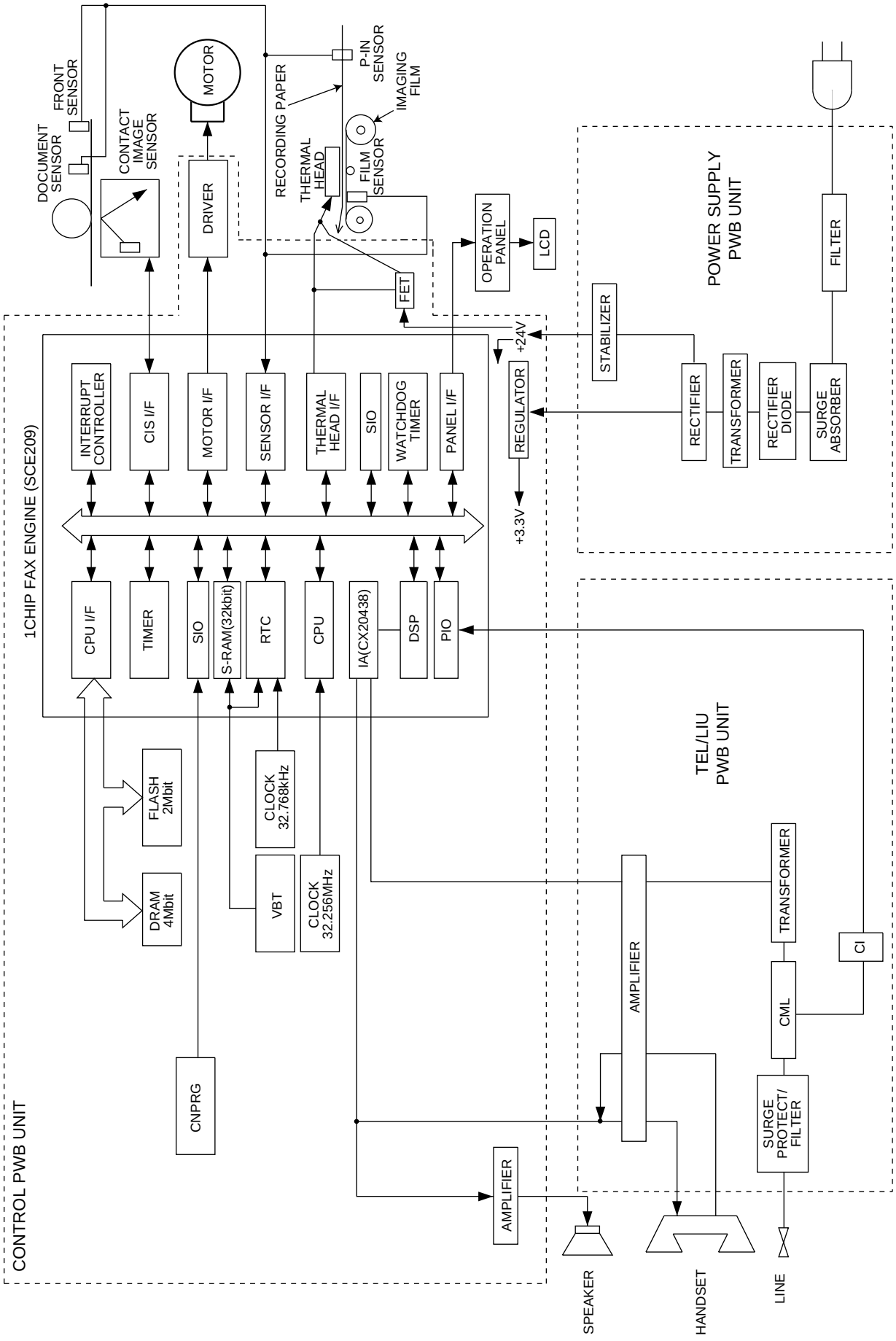


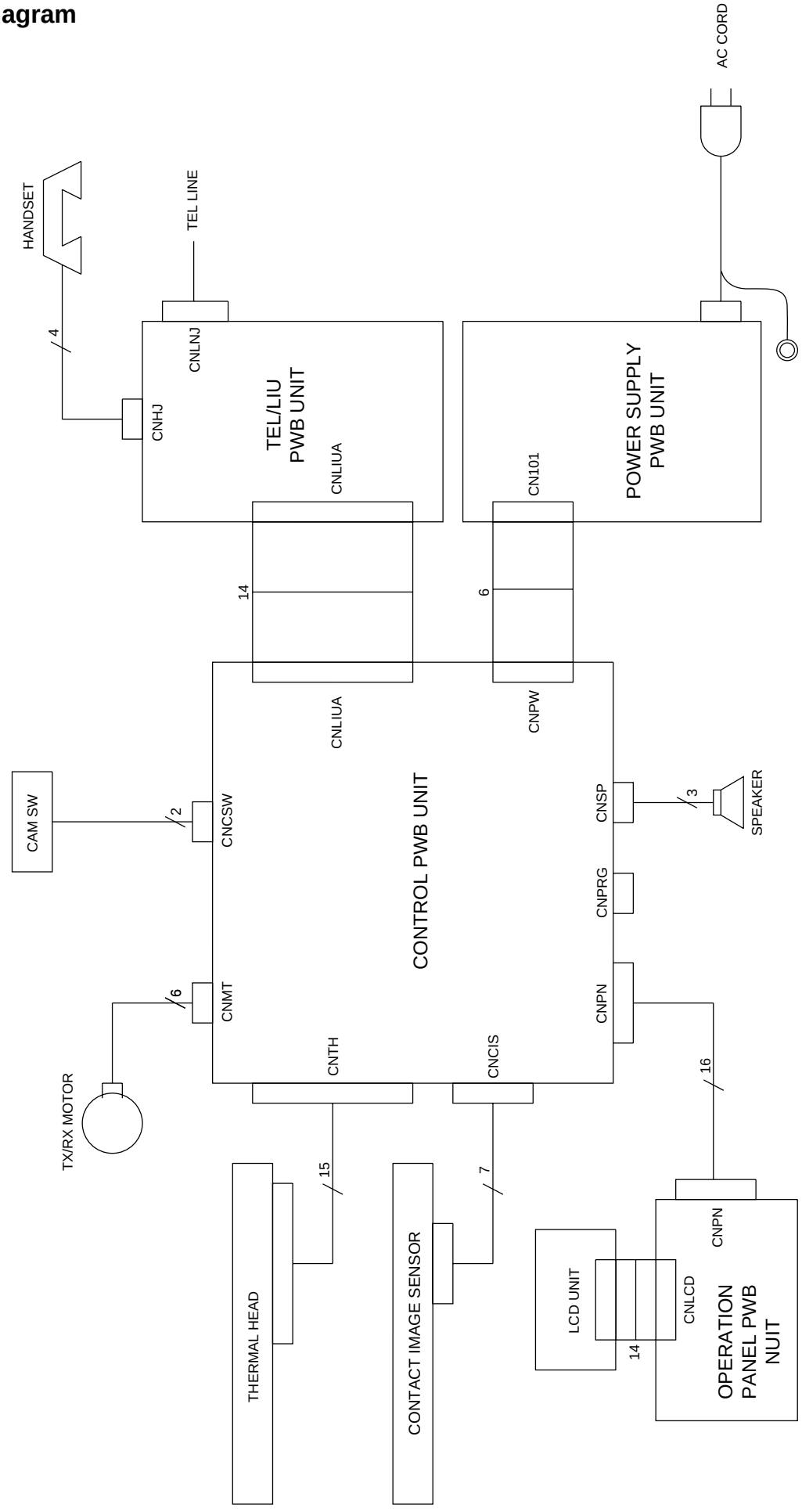
Fig. 4

CHAPTER 4. DIAGRAMS

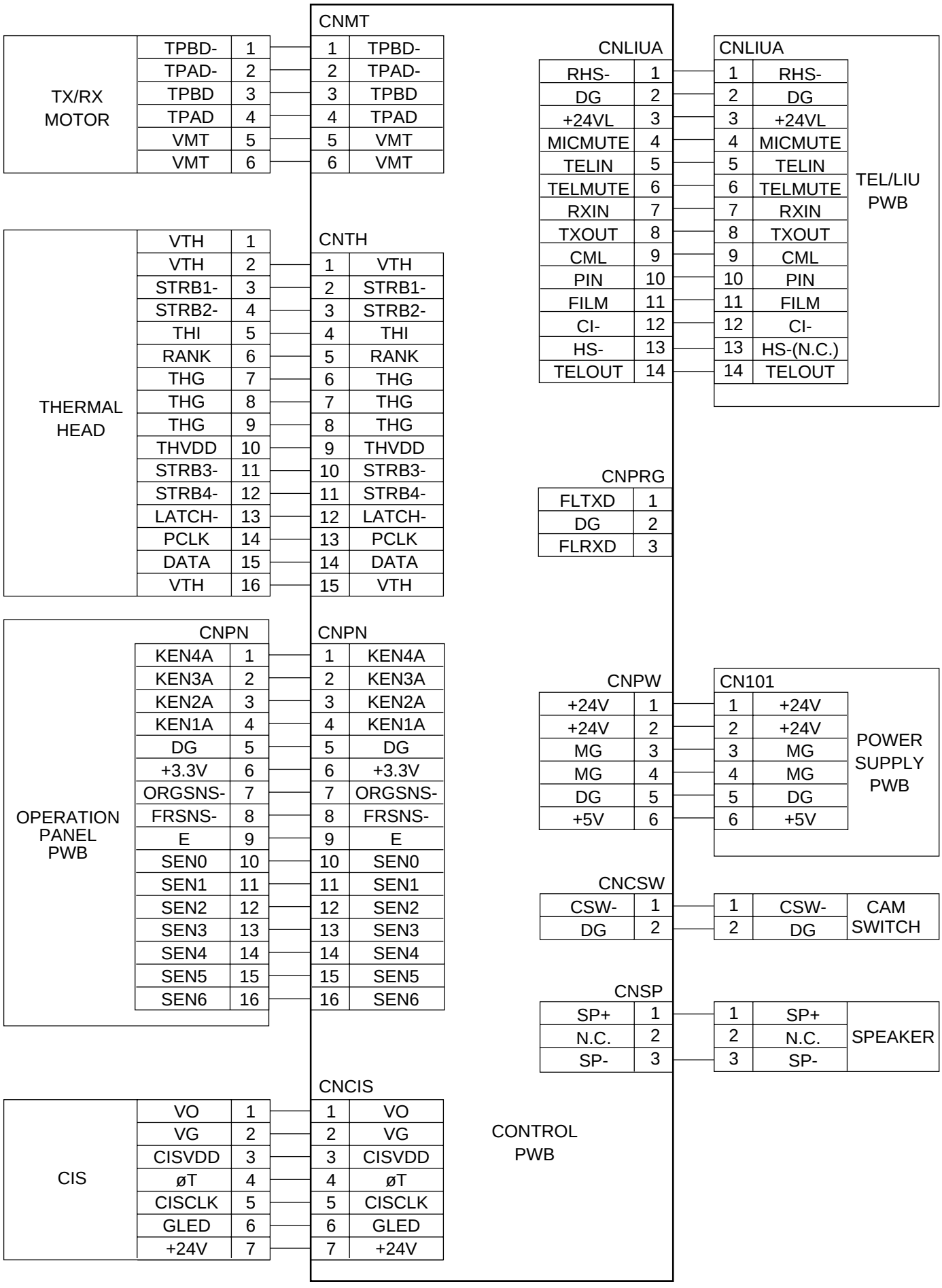
[1] Block diagram



[2] Wiring diagram



[3] Point-to-point diagram



CHAPTER 5. CIRCUIT DESCRIPTION

[1] Circuit description

1. General description

The compact design of the control PWB is obtained by using CONEXANT fax engine in the main control section and high density printing of surface mounting parts. Each PWB is independent according to its function as shown in Fig. 1.

2. PWB configuration

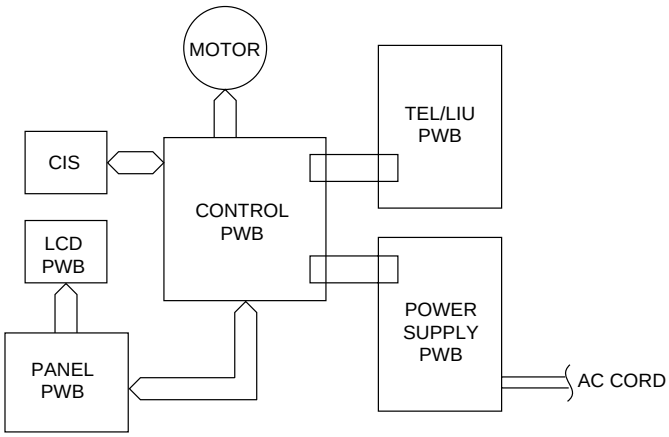


Fig. 1

1) Control PWB

The control PWB controls peripheral PWBs, mechanical parts, transmission, and performs overall control of the unit.
This machine employs a 1-chip modem (SCE209) which is installed on the control PWB.

2) TEL/LIU PWB

This PWB controls connection of the telephone line to the unit.

3) Power supply PWB

This PWB provides voltages of +5V and +24V to the other PWBs.

4) Panel PWB

The panel PWB allows input of the operation keys.

5) LCD PWB

This PWB controls the LCD display.

3. Operational description

Operational descriptions are given below:

- Transmission operation

  When a document is loaded in stand-by mode, the state of the document sensor is sensed via the 1 chip fax engine (SCE209). With depression of the START key in the off-hook state, transmission takes place. Then, the procedure is sent out from the modem and the motor is rotated to move the document down to the scan line. In the scan processor, the signal scanned by the CIS is sent to the internal image processor and the AD converter to convert the analog signal into binary data. This binary data is transferred from the scan processor to the image buffer within the RAM and encoded and stored in the transmit buffer of the RAM. The data is then converted from parallel to serial form by the modem where the serial data is modulated and sent onto the line.

- Receive operation

  There are two ways of starting reception, manual and automatic. Depression of the START key in the off-hook mode in the case of manual receive mode, or CI signal detection by the LIU in the automatic receive mode.

  First, the SCE209 controls the procedure signals from the modem to be ready to receive data. When the program goes into phase C, the serial data from the modem is converted to parallel form in the modem interface of the 1 chip fax engine (SCE209) which is stored in the receive buffer of the RAM. The data in the receive buffer is decoded software-wise to reproduce it as binary image data in the image buffer. The data is DMA transferred to the recording processor within the SCE209 which is then converted from parallel to serial form to be sent to the thermal head. The data is printed line by line by the SCE209 which is assigned to control the motor rotation and strobe signal.

- Copy operation

  To make a copy on this facsimile, the COPY key is pressed when the machine is in stand-by with a document on the document table and the telephone set is in the on-hook state. First, depression of the COPY key advances the document to the scan line. Similar to the transmitting operation, the image signal from the CIS is converted to a binary signal in the DMA mode via the 1 chip fax engine (SCE209) which is then sent to the image buffer of the RAM. Next, the data is transferred to the recording processor in the DMA mode to send the image data to the thermal head which is printed line by line. The copying takes place as the operation is repeated.

[2] Circuit description of control PWB

1. General description

Fig. 2 shows the functional blocks of the control PWB, which is composed of 3 blocks.

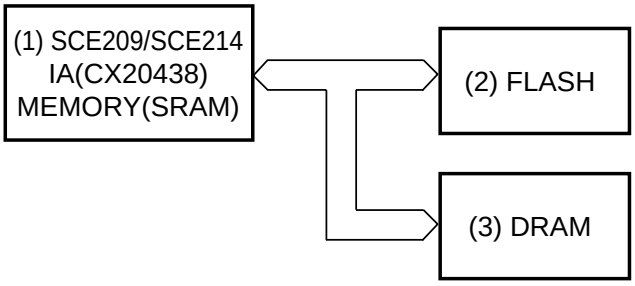


Fig. 2 Control PWB functional block diagram

2. Description of each block

(1) Main control block

The main control block is composed of CONEXANT 1 chip fax engine (SCE209), FLASH (2Mbit) and DRAM (4Mbit).
Devices are connected to the bus to control the whole unit.

1) SCE209 (IC3) : pin-176 QFP (FAX CONTROLLER)

1 chip fax engine has Internal Integrated Analog (20438) and Internal memory (SRAM : 32kbit).

2) SST39VF020P (IC1): pin-32 TSOP (FLASH)

FLASH of 2Mbit equipped with software for the main CPU.

3) MSM51V4800E (IC2): pin-28 SOJ (DRAM)

- Image memory for recording process.
- Memory for recording pixel data without paper.

(2) IC3 (SCE209) Hardware description

1) Integrated Controller (SCC)

The Controller contains an internal MC24 Processor with a 16-MB address space and dedicated circuitry optimized for facsimile image processing and monitoring and for thermal or thermal transfer printer support.
The CPU provides fast instruction (up to 10 MHz clock speed) execution and memory efficient input/output bit manipulation. The CPU connects to other internal functions over an 8-bit data bus and 24-bit address bus and dedicated control lines.
The 24-bit external address bus, 8-bit data bus, control, status and decoded chip select signals support connection to external ROM, SRAM, DRAM, and FLASH memory.

2) DRAM Controller

The CX06835 includes a DRAM controller with signal and page mode access support which supports fast, normal, or slow refresh time. DRAM memory space is provided in one block up to 4 MB. A maximum of 4 MB of DRAM is supported. This space has a programmable size and starting address. Refresh is performed automatically and is supported in stand-by mode. CAS and RAS signal support is provided for one-DRAM banks for both 4-bit and 8-bit organizations. Access speeds from 50ns to 70ns can be supported.

3) DMA Channels

Six internal DMA channels support memory access for scanner, T.4/T.6, and resolution conversion. DMA Channel 2 can be reprogrammed for external access to thermal printing, thermal transfer, or plain paper inkjet printing.

4) External RAM and ROM

Moveable and programmable size external SRAM memory of up to 1 MB, DRAM memory of up to 4 MB, and ROM of up to 2 MB can be directly connected to the SCE209. By using an external address decoder, the size of SRAM and/or ROM can be extended. The ROM stores all the program object code.

5) Flash Memory Controller

The SCE209 includes a flash memory controller that supports NOR, NAND, and Serial NAND-type flash memory. The supported size of NOR-type memory is up to 1 MB and the supported size of NAND-type memory is unlimited.

6) Stepper Motor Control

Eight outputs are provided to external current drivers: four to the scanner motor and four to the printer motor. The stepping patterns are programmable and selectable line times are supported. A timeout circuit controls the power control of the motors. The printer or scanner motor outputs can be programmed as GPOs for applications using single motor or paper printers.

7) T.4/T.6 Compression/Decompression

MH, MR and MMR compression and decompression are provided in hardware. T.4 line lengths of up to 8192 pixels are supported. MMR and Alternating Compression/Decompression (ACD) on a line by line basis provide support for up to three independent compression and decompression processes.

8) Bi-level Resolution Conversion

One independent programmable bi-level 1D-resolution conversion block is provided to perform expansion or reduction on the T.4 decompressed data and scan image data. Image expansion can be programmed up to 200% and reduction down to 33%. Vertical line O-Ring and data output bit order reversal is also provided.

9) Printer IF

The Printer Interface provides a standard connection between the SCE209 and a thermal printhead to support thermal printing or thermal transfer. The thermal printer interface consists of programmable data, latch, clock, and up to four strobe signals. Programmable timing supports traditional thermal printers, as well as the latchless split mode printers, and line lengths of up to 2048 pixels. Line times from 5 ms to 40 ms are supported.
The SCE209 includes a thermal ADC (TADC) function utilizing a D/A converter and a comparator to monitor the printhead temperature. External terminating resistors must be supplied; the values are determined by the specific printhead selected.
As an option, plain paper inkjet printing can be supported.

10) TPH Hardware Timer

The TPH hardware timer provides a 500 ms timer that can be re-triggered or reset.

11) Scanner and Video Control

Five programmable control and timing signals support common CCD and CIS scanners. The video control function provides signals for controlling the scanner and for processing its video output. Three programmable control signals (START, CLK1n, and CLK2) provide timing related to line and pixel timing. These are programmable with regard to start time, relative delay and pulse width.
Two video control output signals (VIDCTL[1:0]) provide digital control for external signal pre-processing circuitry. These signals provide a per pixel period, or per line period, timing with programmable polarity control for each signal.

12) Video Processing

The CX06835 supports two modes of shading correction for scanner data non-uniformity arising from uneven sensor output or uneven illumination. Corrections are provided on either an 8-pixel group or are applied separately to each pixel. Dark level correction and gamma correction are also provided.
Two-dimensional Error Diffusion/Dithering is performed on halftone images.
The CX06835 includes an 8 x 8 dither table, which is programmable and stored internally (8-bit per table entry). The table is arranged in a matrix of 8 rows by 8 columns. The video processing circuit provides mixed-mode detection/processing and multi-level Resolution Conversion for the scanner multi-level data. The conversion ratio of the multi-level Resolution Conversion is fixed to B4-A4 conversion.

13) Operator Panel Interface

Operation Panel functions are supported by the operator output bus OPO[6:0], the operator input bus OP[3:0], and two control outputs (LCDCS and LEDCTRL).
The CX06835 can directly interface to a 28-key keypad.
A 2-line LCD display module with 20 characters per line can be supported.

14) Synchronous Serial Interface (SSIF)

One or optionally two Synchronous only Serial Interfaces (SSIF) are built into the CX06835, which allows it to communicate with external peripherals. Each SSIF provides separate signals for Data (SSTXD, SSRXD), Clock (SSCLK), and Status (SSSTAT). Each SSIF is a duplex, three-wire system. The SSIF may be configured to operate as either a master or a slave interface. The bit rate, clock polarity, clock phase, and data shifting order are programmable.

15) Synchronous/Asynchronous Serial Interface (SASIF)

One or optionally two Synchronous/Asynchronous Serial Interface (SASIF) performs the following:
- Serial-parallel conversion of data received from a peripheral device.
- Parallel-to-serial conversion of data for transmission to a peripheral device.

This interface consists of serial transmit data (SASTXD), serial receive data (SASRXD), and a serial clock(SASCLK). The SASIF includes a programmable bit rate generator for asynchronous and synchronous operations. The data shifting order, data bit number, and the SASCLK polarity are programmable.
The optional SASIF 2 has an additional pin called DSS_AVAIL. This signal can be used to tristate the SASCLK2 and SASTXD2 signals.

16) Real Time Clock (RTC)

The CX06835 includes a battery backup real time clock. The RTC will automatically maintain the proper date and time for 32 years. Leap year compensation is included. A 32.768 kHz or 65.536 kHz crystal is required by the RTC.

17) Tone Generator (ALT_TONE)

The CX06835 provides a programmable tone generator output. The frequency of the tone generator is programmable from 400 Hz to 4 kHz. By using a PWM programmable high frequency as a modulation frequency, the output level can be made programmable.

18) Watchdog Timer

The Programmable Watchdog Timer is intended to guard against firmware lockup on the part of either executive-controlled background tasks or interrupt-driven tasks, and can only be enabled by a sequence of events under control of the Watchdog Control Logic. Once the Watchdog Timer has been enabled, it can not be disabled unless a system reset occurs.

19) Reset and Power Control

The RESETn I/O pin provides an internally generated reset output to external circuits, or it can accept an externally generated reset signal. This reset signal will not reset the RTC. Separate RTC battery power inputs are provided for battery-backup functions. A BATRSTn pin is provided, which resets the RTC circuits and other SCC circuits.

20) Power Up/Down Control

Power Up/Down detection is provided internally. The threshold voltages are:
- Power Up detection level = 2.83V to 2.95V.

An internally generated power down signal controls internal switching between primary and battery power. This control signal is also provided as an output on the PWRDWNn pin. An externally generated power down detector (optional) can be provided as an input on the PWRDWNn pin by setting the INTPWRDWNEn pin.

21) Stand-by and Sleep Modes

Two power saving modes are provided to reduce the power consumption. In stand-by mode, the CPU is functional, but the modem clock is turned off to save power. When this occurs, the modem may be activated by software under different conditions. In sleep mode, the clock is cut off from both the modem and the CPU to increase the power savings.
The system can be activated by paper insertion, key pressing events, and telephone ring detection.

22) Embedded Modem DSP

The embedded modem DSP is a synchronous 9600 bps half-duplex modem with error detection and DTMF generation/reception. It provides data transmission/reception from regular PSTN lines, PBX, or private lines.
The modem can operate at any standard V.29 data speed up to 9600 bps as well as in V.21 and V.23 modes.
The modem is designed for use in Group 3 facsimile machines. It satisfies the requirements specified in ITU-T recommendations V.29, V.27ter, V.21 Channel 2, and T.4 , and meets the signaling requirements of T.30. It also performs HDLC framing according to T.30 at all speeds.

Note: For technical details, refer to the FM209/FM214 Designer's Guide, (document 1175).

23) Software and Firmware Support Features

Available software and embedded firmware provides the following:
- Modem support for speeds up to 9600 bps.
- ECM under conditional assembly.
- DRAM memory support under conditional assembly.
- MH, MR and MMR support.
- Page memory receiving.
- 5 ms minimum scan line time.
- Conditional Error Diffusion or Dither table (8x8) support.
- Dark Level Correction support.
- Single motor support.
- 28-key operator panel support.
- Call progress support for Europe and U.S.A.
- Monochrome inkjet print engine support.

SCE209 (IC3) Terminal descriptions (1/3)

Pin No.	Pin List	I/O	Input Type	Output Type	Pin Description
1	VDDPLL	—	—	—	PLL Power
2	VSSPLL	—	—	—	PLL GND
3	ROMCSn	O	—	13Xs	—
4	SYNC/GPO[20]	O	—	13Xs	—
5	WRn	O	—	13Xs	—
6	RDn	O	—	13Xs	—
7	DEBUGn	I	Hu	—	—
8	TSTCLK	O	—	13Xs	—
9	VSS	—	—	—	Digital GND
10	SXIN	I	Osc0	—	—
11	SXOUT	O	—	Osc0	—
12	OPO[0]/GPO[8]/SMPWRCTRL	O	—	13Xs	—
13	OPO[1]/GPO[9]/PMPWRCTRL	O	—	13Xs	—
14	OPO[2]/GPO[10]/RINGER	OZ	—	13Xs	—
15	OPO[3]/GPO[11]	O	—	13Xs	—
16	OPO[4]/GPO[12]/SSTXD1	O	—	13Xs	—
17	OPO[5]/GPO[13]	O	—	13Xs	—
18	OPO[6]/GPO[14]	O	—	13Xs	—
19	OPI[0]/GPIO[21]/SSRXD1	I/O	Hu	13Xs	—
20	OPI[1]/GPIO[22]/SSSTAT1	I/O	Hu	13Xs	—
21	OPI[2]/GPIO[23]/SSCLK1	I/O	Hu	13Xs	—
22	OPI[3]/GPIO[24]	I/O	Hu	13Xs	—
23	LCDCS/GPO[17]	O	—	1XC	—
24	VDD	—	—	—	Digital Power
25	RASn	O	—	13Xs	—
26	CAS[0]n	O	—	13Xs	—
27	DWRn	O	—	13Xs	—
28	VBAT	—	—	—	RTC Battery Power
29	XIN	I	Osc1	—	—
30	XOUT	O	—	Osc1	—
31	WRPROTn	O	—	1XC	—
32	TEST[1]	I	Hd	—	—
33	TEST[0]	I	Hd	—	—
34	BATRSTn	I	H	—	—
35	INTPWRDWNEn	I	H	—	—
36	PWRDWNn	I/O	H	13Xs	—
37	N.C.	—	—	—	—
38	ADGA	—	VADG	—	PADC Analog GND
39	VREFn/CLREF	I	VR-	—	PADC
40	VIN	I	VA	—	PADC
41	ADGA	—	VADG	—	PADC Analog GND
42	ADVA	—	VADV	—	PADC Analog Power
43	ADXG	—	VXG	—	PADC
44	VREFp	I	VR	—	PADC
45	VSS	—	—	—	VSS Digital GND
46	IVREFn	O	—	VR-	PADC
47	IVREFp	O	—	VR+	PADC
48	VDD	—	—	—	Digital Power
49	THADI	I	Analog	—	TADC
50	VSS	—	—	—	Digital GND
51	GPIO[17]/DSPIRQn	I/O	Hu	13Xs	—
52	GPIO[16]/IRQ[8]	I/O	Hu	13Xs	—
53	GPIO[15]/CS[5]n	I/O	Hu	13Xs	—
54	GPIO[13]/CS[3]n	I/O	Hu	13Xs	—
55	GPIO[37]/IRQ15n/DSPCSn	I	Hu	13Xs	—
56	GPIO[4]/CPCIN/TPHPWRCTRL/DMAREQ	I/O	Hu	13Xs	—
57	STRB[0]	O	—	1XC	—
58	STRB[1]	O	—	1XC	—
59	STRB[2]	O	—	1XC	—
60	STRB[3]	O	—	1XC	—
61	PLAT	O	—	3XC	—
62	PDAT	O	—	2XC	—
63	PCLK/DMAACK	O	—	3XC	—

SCE209 (IC3) Terminal descriptions (2/3)

Pin No.	Pin List	I/O	Input Type	Output Type	Pin Description
64	VDD	—	—	—	Digital Power
65	GPIO[11]/BE/SERINP/SR4IN	I/O	Hu	13Xs	—
66	GPIO[19]/RDY/SEROUT	I/O	Hu	13Xs	—
67	START	O	—	2XC	—
68	CLK1n/GPO[25]	O	—	13Xs	—
69	CLK2/GPO[24]	O	—	13Xs	—
70	GND	—	—	—	IA GND
71	MCLK	ID	—	—	Main Clock from DSP
72	CTRLI	ID	d	—	Control Data from DSP
73	TESTC	ID	d	—	IA Test
74	SOUT	OD	—	T	Serial Data to DSP
75	SIN	ID	d	—	Serial Data to DSP
76	FSYNC	I/OD	d	—	Frame Sync Signal (IA)
77	POR	IA	d	—	Hardware Reset
78	GND	—	—	—	IA GND
79	LINE_INP	IA	—	—	Analog Input to Line Pre-Amp.
80	MIC_INP	IA	—	—	Positive differential Analog Input to Microphone Pre-Amp.
81	MIC_INM	IA	—	—	Negative differential Analog Input to Microphone Pre-Amp.
82	MIC_BIAS	OA	—	—	2.2 V Nominal DC Bias Source for Electret Microphone
83	BG	OA	—	—	Analog reference Voltage Output
84	VC	OA	—	—	Analog Ground Bias Output
85	AVDD	PWR	—	—	IA Analog Power
86	GND	—	—	—	IA GND
87	LINE_OUTP	OA	—	—	Line Driver Output
88	SPKR_OUTP	OA	—	—	Positive Speaker Driver Output
89	SPKR_OUTM	OA	—	—	Negative Speaker Driver Output
90	DVDD	PWD	—	—	IA Digital Power
91	MODE_0	ID	u	—	Connect to VSS (IA Mode Selection)
92	ICLK	I/OD	—	—	IA Bit Clock Input/Output
93	VSS	—	—	—	VSS Digital GND
94	FCSn[1]/VIDCTL[0]/GPO[23]	O	—	13Xs	—
95	IARESET	O	—	13Xs	DSP to EXTIA POR
96	IACLK	O	—	13Xs	DSP to EXTIA MCLK
97	VDD	—	—	—	Digital Power
98	IA1CLK	I	H	—	DSP from EXTIA ICLK
99	SR3IN/DSPIRQn	I	H	—	DSP from primary EXTIA SOUT/EXT. Modem IRQn
100	SR4OUT	O	—	13Xs	DSP to primary EXTIA SIN
101	SR1IO	O	—	13Xs	DSP to EXTIA CTRL1
102	SA1CLK	I	H	—	DSP from EXTIA FSYNC
103	GPIO[7]/SSRXD2/SASRXD2	I/O	Hu	13Xs	—
104	GPIO[6]/SSTXD2/SASTXD2	I/O	Hu	13Xs	—
105	GPIO[5]/SSCLK2/SASCLK2	I/O	Hu	13Xs	—
106	GPIO[10]/SSSTAT2/DSS_AVAIL	I/O	Hu	13Xs	—
107	VSS	—	—	—	Digital GND
108	RESETn	I/O	Hu	2XC	—
109	GPIO[3]/SASCLK	I/O	Hu	13Xs	—
110	GPIO[2]/SASRXD	I/O	Hu	13Xs	—
111	GPIO[1]/SASTXD	I/O	Hu	13Xs	—
112	GPIO[9]/FRDn	I/O	Hu	13Xs	—
113	GPIO[8]/FWRn	I/O	Hu	13Xs	—
114	A[0]	I/O	Tu	13Xs	CPU Address Bus
115	A[1]	I/O	Tu	13Xs	CPU Address Bus
116	A[2]	I/O	Tu	13Xs	CPU Address Bus
117	A[3]	I/O	Tu	13Xs	CPU Address Bus
118	A[4]	I/O	Tu	13Xs	CPU Address Bus
119	VDD	—	—	—	Digital power
120	A[5]	I/O	Tu	13Xs	CPU Address Bus
121	A[6]	I/O	Tu	13Xs	CPU Address Bus
122	A[7]	I/O	Tu	13Xs	CPU Address Bus
123	A[8]	I/O	Tu	13Xs	CPU Address Bus
124	A[9]	I/O	Tu	13Xs	CPU Address Bus
125	A[10]	I/O	Tu	13Xs	CPU Address Bus
126	A[11]	I/O	Tu	13Xs	CPU Address Bus

SCE209 (IC3) Terminal descriptions (3/3)

Pin No.	Pin List	I/O	Input Type	Output Type	Pin Description
127	A[12]	I/O	Tu	13Xs	CPU Address Bus
128	A[13]	I/O	Tu	13Xs	CPU Address Bus
129	A[14]	I/O	Tu	13Xs	CPU Address Bus
130	A[15]	I/O	Tu	13Xs	CPU Address Bus
131	A[16]	I/O	Tu	13Xs	CPU Address Bus
132	VDD	—	—	—	Digital Power
133	VSS	—	—	—	Digital GND
134	A[17]	I/O	Tu	13Xs	CPU Address Bus
135	A[18]	I/O	Tu	13Xs	CPU Address Bus
136	A[19]	I/O	Tu	13Xs	CPU Address Bus
137	A[20]	I/O	Tu	13Xs	CPU Address Bus
138	A[21]/EYECLK	I/O	Tu	13Xs	CPU Address Bus
139	A[22]/EYESYNC	I/O	Tu	13Xs	CPU Address Bus
140	A[23]/EYEXY	I/O	Tu	13Xs	CPU Address Bus
141	D[0]	I/O	Tu	13Xs	CPU Data Bus
142	D[1]	I/O	Tu	13Xs	CPU Data Bus
143	D[2]	I/O	Tu	13Xs	CPU Data Bus
144	D[3]	I/O	Tu	13Xs	CPU Data Bus
145	D[4]	I/O	Tu	13Xs	CPU Data Bus
146	D[5]	I/O	Tu	13Xs	CPU Data Bus
147	D[6]	I/O	Tu	13Xs	CPU Data Bus
148	D[7]	I/O	Tu	13Xs	CPU Data Bus
149	GPIO[20]/ALTTONE	I/O	Hu	13Xs	—
150	GPIO[26]	I/O	Hu	13Xs	—
151	GPIO[27]	I/O	Hu	13Xs	—
152	GPIO[28]	I/O	Hu	13Xs	—
153	GPO[26]	O	—	13Xs	—
154	GPO[27]	O	—	13Xs	—
155	GPO[28]	O	—	13Xs	—
156	GPO[29]	O	—	13Xs	—
157	GPO[30]/SR3OUT	O	—	13Xs	—
158	GPIO[29]	I/O	Hu	13Xs	—
159	GPIO[31]	I/O	Hu	13Xs	—
160	GPIO[32]	I/O	Hu	13Xs	—
161	VDD	—	—	—	Digital power
162	GPIO[34]	I/O	Hu	13Xs	—
163	GPIO[35]	I/O	Hu	13Xs	—
164	GPIO[36]	I/O	Hu	13Xs	—
165	Vss	—	—	—	Digital GND
166	VDD	—	—	—	Digital Power
167	PM[0]/GPO[0]	O	—	13Xs	—
168	PM[1]/GPO[1]	O	—	13Xs	—
169	PM[2]/GPO[2]	O	—	13Xs	—
170	PM[3]/GPO[3]	O	—	13Xs	—
171	SM[0]/GPO[4]	O	—	13Xs	—
172	SM[1]/GPO[5]	O	—	13Xs	—
173	SM[2]/GPO[6]	O	—	13Xs	—
174	SM[3]/GPO[7]	O	—	13Xs	—
175	REGDMA/GPO[18]/CLKDIV[0]	I/O	T	13Xs	—
176	WAITn/GPO[19]/CLKDIV[1]	I/O	T	13Xs	—

(3) Panel control block

The following controls are performed by the SCE209.

- Operation panel key scanning
- Operation panel LCD display

(4) Mechanism/recording control block

- Recording control block diagram (1)

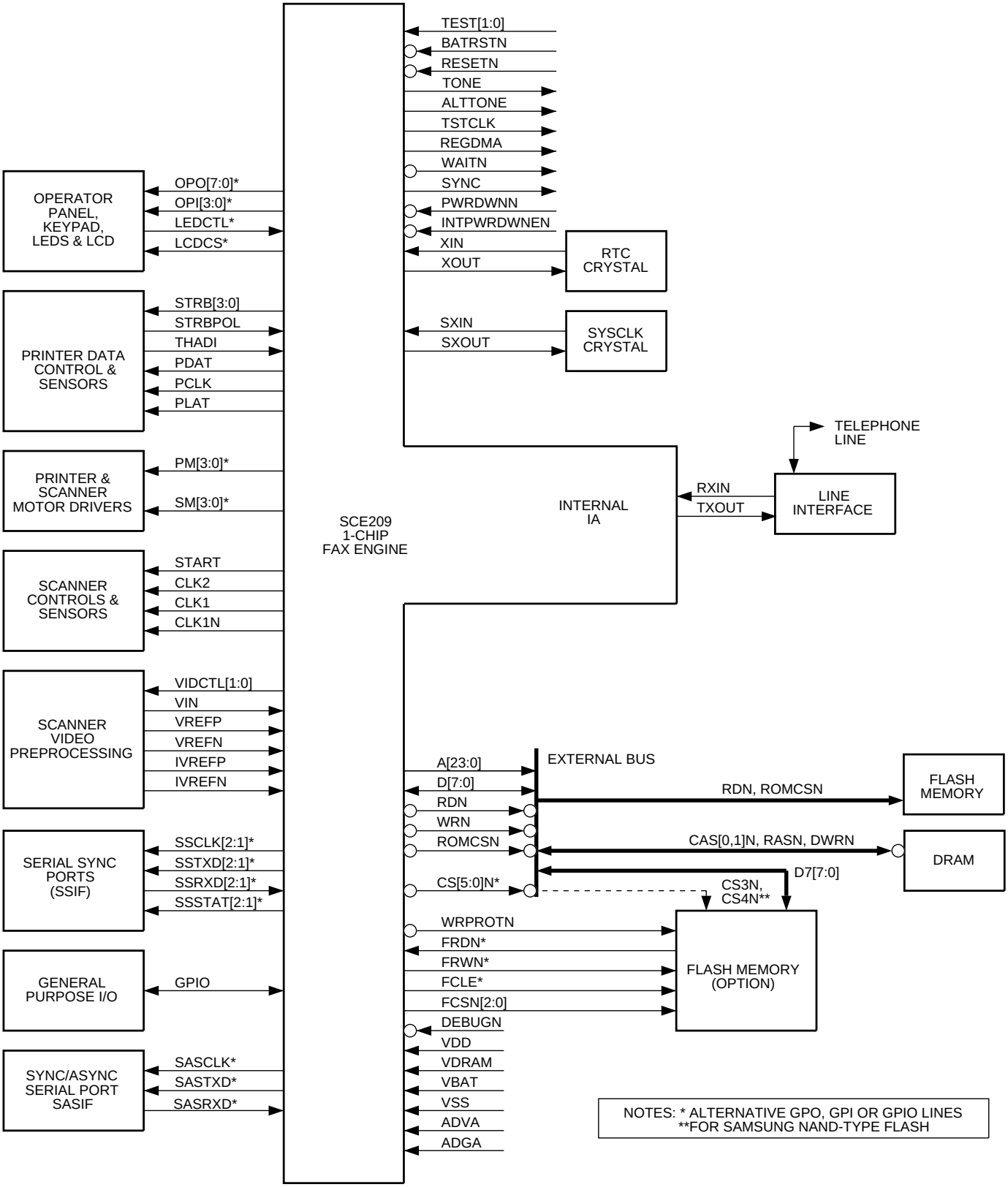


Fig. 3

(5) Modem block (CX20438)

Integrated Analog Control Resisters for CX20438

The CX20438 IA can be used as a Primary Integrated Analog (PIA) codec or as a Secondary Integrated Analog (SIA) codec, depending on the signal connection with the SCE Controller ASIC device. In the SCE100 product, both the PIA and the SIA are packaged external to the SCE Controller device, whereas in the SCE209, the PIA is packaged with the SCE209 Controller and the SIA is external.
The CX20438 IA provides gain, filtering, internal analog switching, and an internally sourced microphone bias output. The IA is controlled by three control registers and an address register located in internal RAM space which are accessed via the modem interface memory. These registers provide individual controls for the IA's inputs, outputs, gain settings, and switching.
The registers are located in internal DSP RAM. Each bit of each 8-bit IA control register has exactly the same meaning for the PIA and the SIA. The LSB of each 16-bit address contents is used to control the PIA. The MSB of each 16-bit address contents is used to control the SIA.
The following table the PIA/SIA control register RAM access code.

Register	SBRAMx	BRx	Crx	IOx	AREXx	ADDx	PIA Reg*	SIA Reg*
IACR1	0	0	0	0	0	D0	0	1
IACR2	0	0	0	0	0	D4	0	1
IACR3	0	0	0	0	0	D5	0	1
IAADD	0	0	0	0	0	CE	0, 1	0, 1
NOTES: *Registers to use when x=1. When x=2, add 10h.								

- For changes made to IACR1 to be effective, the host must write to IAADD with a value of 0002h.
- For changes made to IACR2 to be effective, the host must write to IAADD with a value of 0006h.
- For changes made to IACR3 to be effective, the host must write to IAADD with a value of 0007h.

Configuration default values are shown below.

DEFAULT VALUE			
CONFIGURATION	**IACR1**	**IACR2**	**IACR3**
V.17/V.33	1D9Eh	0008h	0000h
V.29	1D9Eh	0008h	0000h
V.27ter	1D9Eh	0008h	0000h
V.21 Ch. 2	1D9Eh	0008h	0000h
V.23/Caller ID	1D9Eh	0008h	0000h
Tone Transmit/Detect	1D9Eh	0008h	0000h
Voice/Audio Codec	0D16h	0008h	0000h
Speakerphone	0D16h	0008h	0000h

The following signal flow block diagram is for a signal IA and it applies to both PIA and SIA.

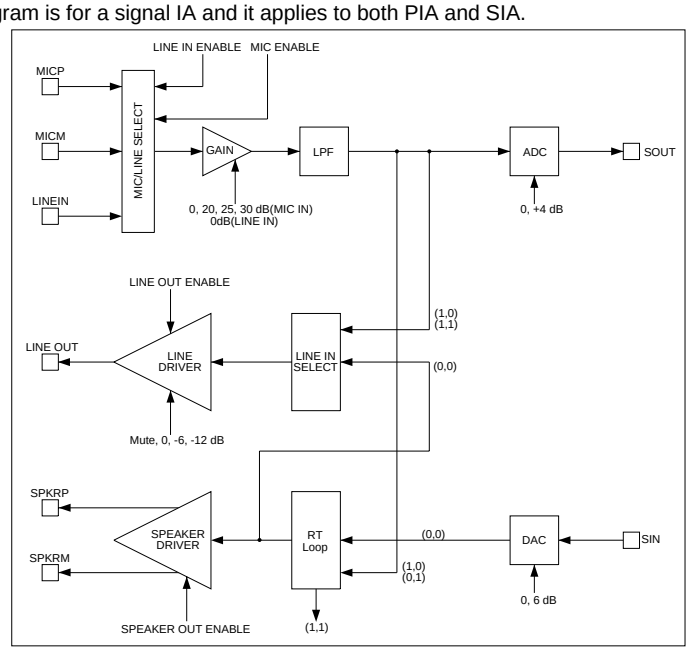


Fig. 4 PIA/SIA Signal Flow Control

[3] Circuit description of TEL/LIU PWB

(1) TEL/LIU block operational description

1) Block diagram

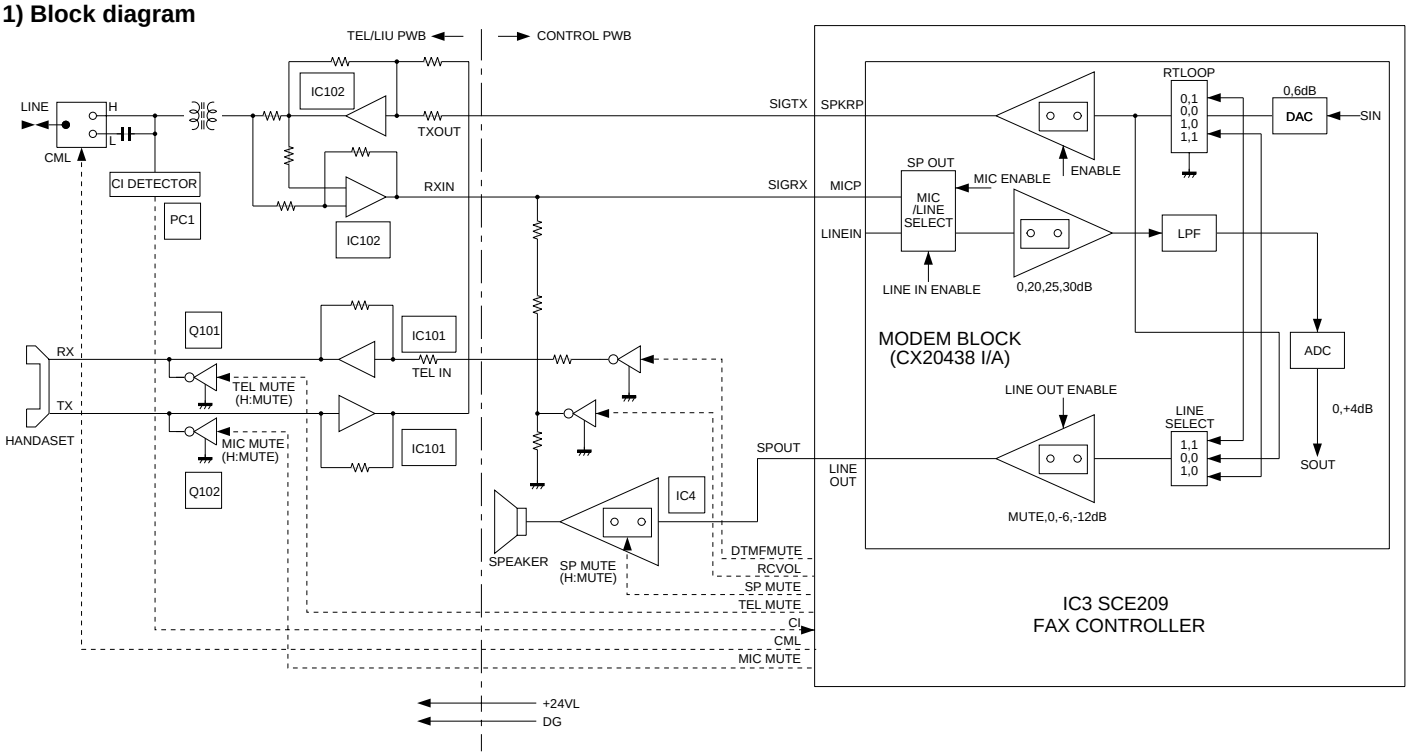


Fig. 5

2) Circuit description

The TEL/LIU PWB is composed of the following 6 blocks.

1. Speech circuit section
2. Dial transmission section
3. Speaker amplifier section
4. Ringer circuit section
5. CI detection circuit
6. Signal/DTMF transmission level & receiving level

3) Block description

1. Speech circuit section

- This circuit is composed by IC101,IC102 and that circumference circuit.

2. Dial transmission section

- D.P. transmission: The CML relay is turned on and off for control in the D.P. calling system. (Refer to the attached sheet.)
- DTMF transmission: It is formed in the modem, and is output.

3. Speaker amplifier section

- Ringer volume :It is controlled by the combination of the attenuator value of the LINE DRIVER in the modem and the ringer sending level sent from the modem.
- Speaker volume :It is controlled by the attenuator value of the LINE DRIVER in the modem.

4. Ringer circuit section

- The ringer sound is formed in the tone of modem when CI signal is detected. The amplifier circuit drives the speaker of the main body.

5. CI detection circuit

- CI is detected by the photo coupler which is integrated in series in the primary side TEL circuit well proven in the existing unit.

6. Signal/DTMF transmission level & receiving level

- Signal transmission level setting: According to soft switch list.
- DTMF transmission level setting: According to soft switch list.

4) Signal selection

The following signals are used to control the transmission line of TEL/FAX signal. For details, refer to the signal selector matrix table.

[Control signals from output port]

Signal Name	Description
CML (The circuit is located in the TEL/LIU PWB.)	Line connecting relay and DP generating relay H: Line make L: Line break
SP MUTE (The circuit is located in the TEL/LIU PWB.)	Speaker tone mute control signal H: Muting (Power down mode) L: Muting cancel (Normal operation)
TELMUTE	Handset reception mute control signal H: Muting L: Muting cancel
DTMFMUTE (The circuit is located in the control PWB.)	DTMFMUTE control signal Volume: High / Middle / Low / DTMF sending DTMFMUTE: L / L / H / H Note: The DTMF sending listed above is DTMF signal sending in the handset OFF-HOOK mode.

VOLUME SETTING		LINEOUT A (HIGH)	LINEOUT A (LOW)	RCVOL	DTME MUTE
DTMF Transmission volume setting (Receiver)	Fixed			1	1
Key buzzer volume setting	Fixed				
Speaker volume setting	Low	1	1		
	Middle	1	0		
	High	0	1		
Ringer volume setting	Low	1	1		
	Middle	1	0		
	High	0	1		
DTMF speaker volume setting	Low	1	1		
	Middle	1	0		
	High	0	1		

[Signals for status recognition according to input signals]

Signal Name	Function
$\overline{\text{RHS}}$	H:The handset is in the on-hook state. L: The handset is in the off-hook state.
CI	Incoming call (CI) detection signal

[Other signals]

Signal Name	Function
TEL IN	Receiving signal from line or modem
SPOUT	Speaker output signal
TXOUT	Transmission (DTMF) analog signal output from modem
RXIN	Reception (DTMF, others) analog signal input into modem

NO	Signal Name (CNLIUA)	NO	Signal Name (CNLIUA)
1	RHS-	8	TXOUT
2	DG	9	CML
3	+24VL	10	PIN
4	MICMUTE	11	FILM
5	TELIN	12	CI-
6	TELMUTE	13	HS-(N.C.)
7	RXIN	14	TELOUT

(Example: SENDING/RECEIVING)

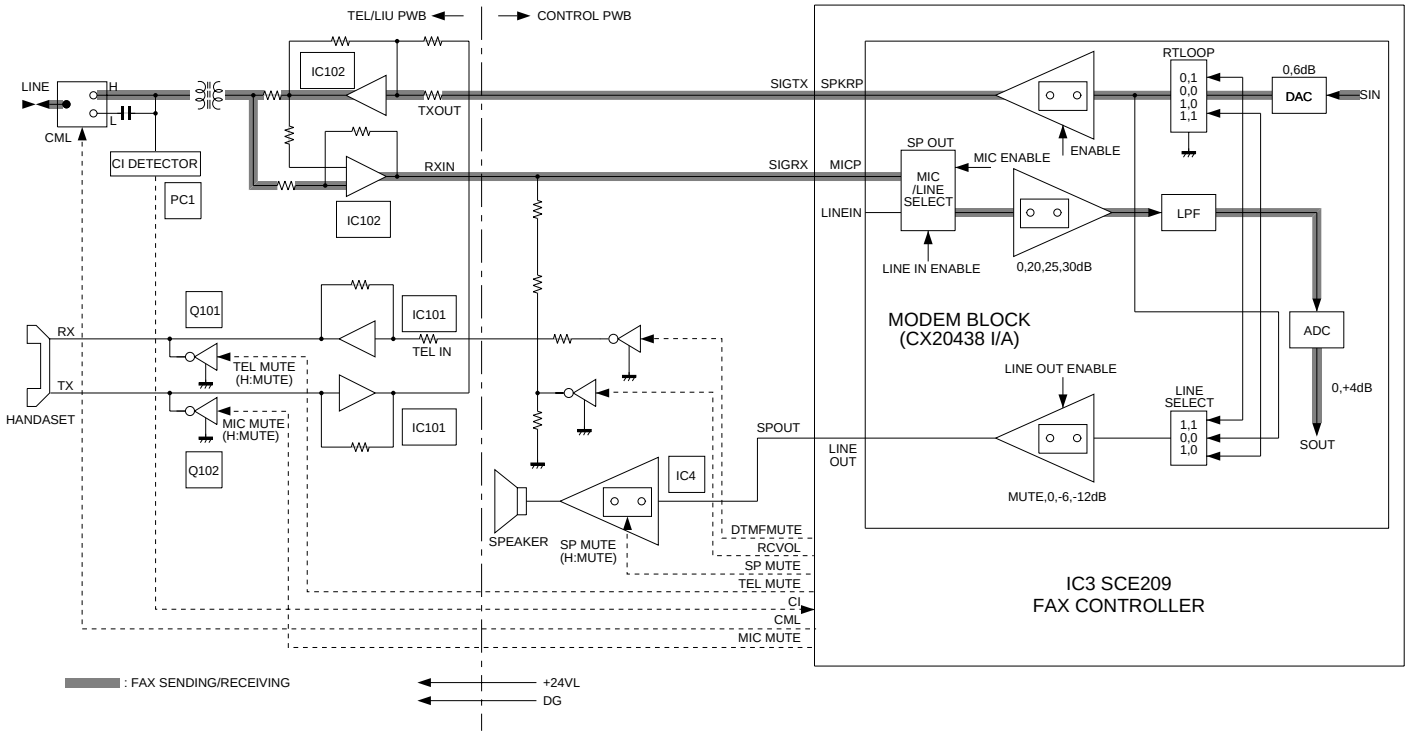


Fig. 6

[4] Circuit description of power supply PWB

This power supply unit has the function to convert the AC 220 - 240 V, 50/60 Hz to DC +24 V, and provide these outputs to the equipment. The following explains the function of each block.

1. Block diagram

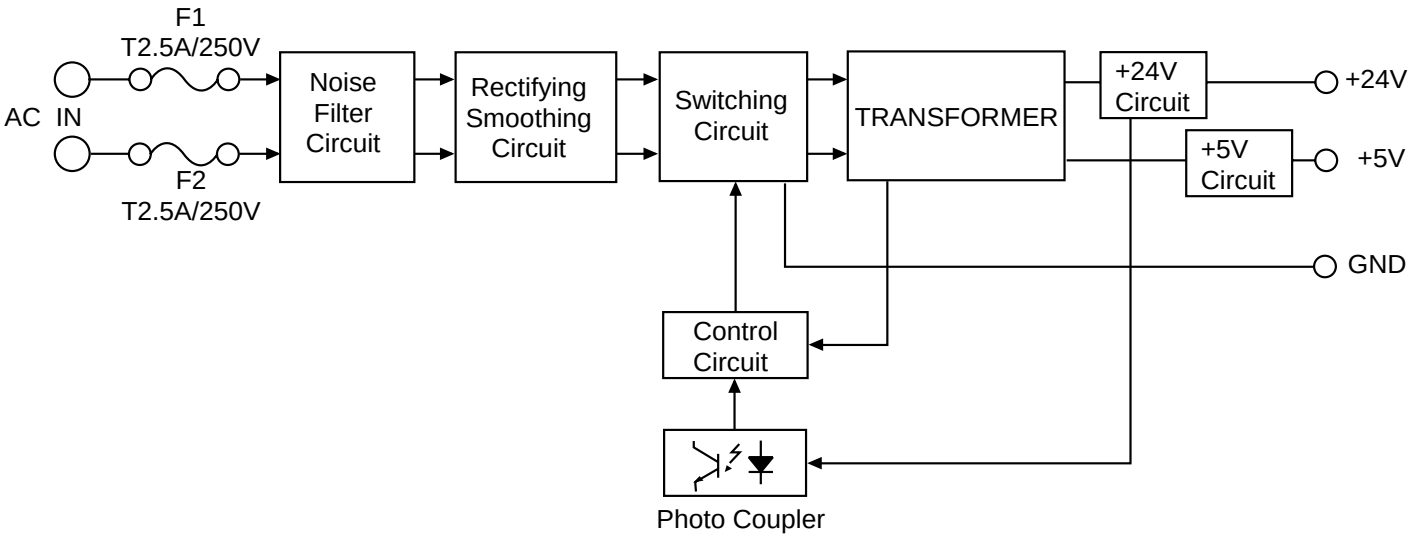


Fig. 7

2-1. Noise filter circuit

This circuit reduces the outgoing noise through the input lines which is generated in the power supply unit, and prevents the invasion of the noise from the lines.(the excessive surge such as the thunder is prevented by the varistor(Z1).)

2-2. Rectifying/smoothing circuit

This circuit rectifies and smoothes the AC input, and provides the DC voltage to the switching circuit block.

2-3. Switching circuit

This circuit converts the DC voltage(provided from the Rectification and smoothing circuit block) to the high frequency pulse voltage by FET(Q1)'s switching(on/off repeat), and provides the energy to the transformer(T1). It discharges the energy(charged during the FET ON time) to the secondary side during the FET OFF time through the secondary windings. The output voltage on the secondary side provided by the energy depend on the ratio of the winding turns(primary : secondary) etc.

2-4. Control circuit

This circuit block controls the output voltage by transmitting the detected +24 V voltage to the primary control circuit through the photocoupler(PC1). In case of the over-current, this circuit reduces providing the energy to the transformer. In case of the over-voltage, this circuit reduces providing the energy to the transformer by letting the Power-Zener(D104; connected between the +24 V output voltage and GND) into the short mode and letting the over-current protection circuit work.

2-5. +24V circuit

This circuit block rectifies and smoothes the high-frequency pulse voltage provided by the transformer, and provides the DC +24 V output to the equipment. The output voltage is adjusted by the variable resistor(VR101).

2-6. +5V circuit

This circuit block rectifies and smoothes the high-frequency pulse voltage provided by the transformer, and provides the DC +5 V output to the equipment.

[5] Circuit description of CIS unit

1. CIS

CIS is an image sensor which puts the original paper in close contact with the full-size sensor for scanning, being a monochromatic type with the pixel number of 1,728 dots and the main scanning density of 8 dots/mm.

It is composed of sensor, rod lens, LED light source, light-conductive plate, control circuit and so on, and the reading line and focus are previously adjusted as the unit.
Due to the full-size sensor, the focus distance is so short that the set is changed from the light weight type to the compact type.

2. Waveforms

The following clock is supplied from SCE209 of the control board, and VO is output.

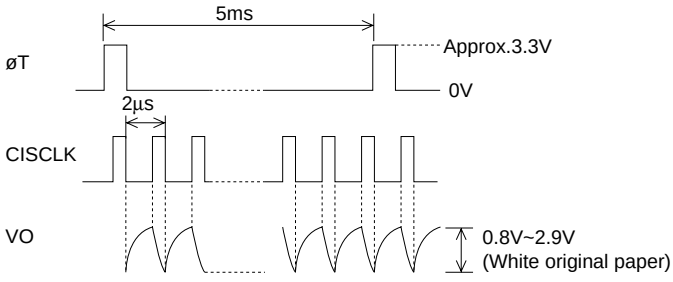
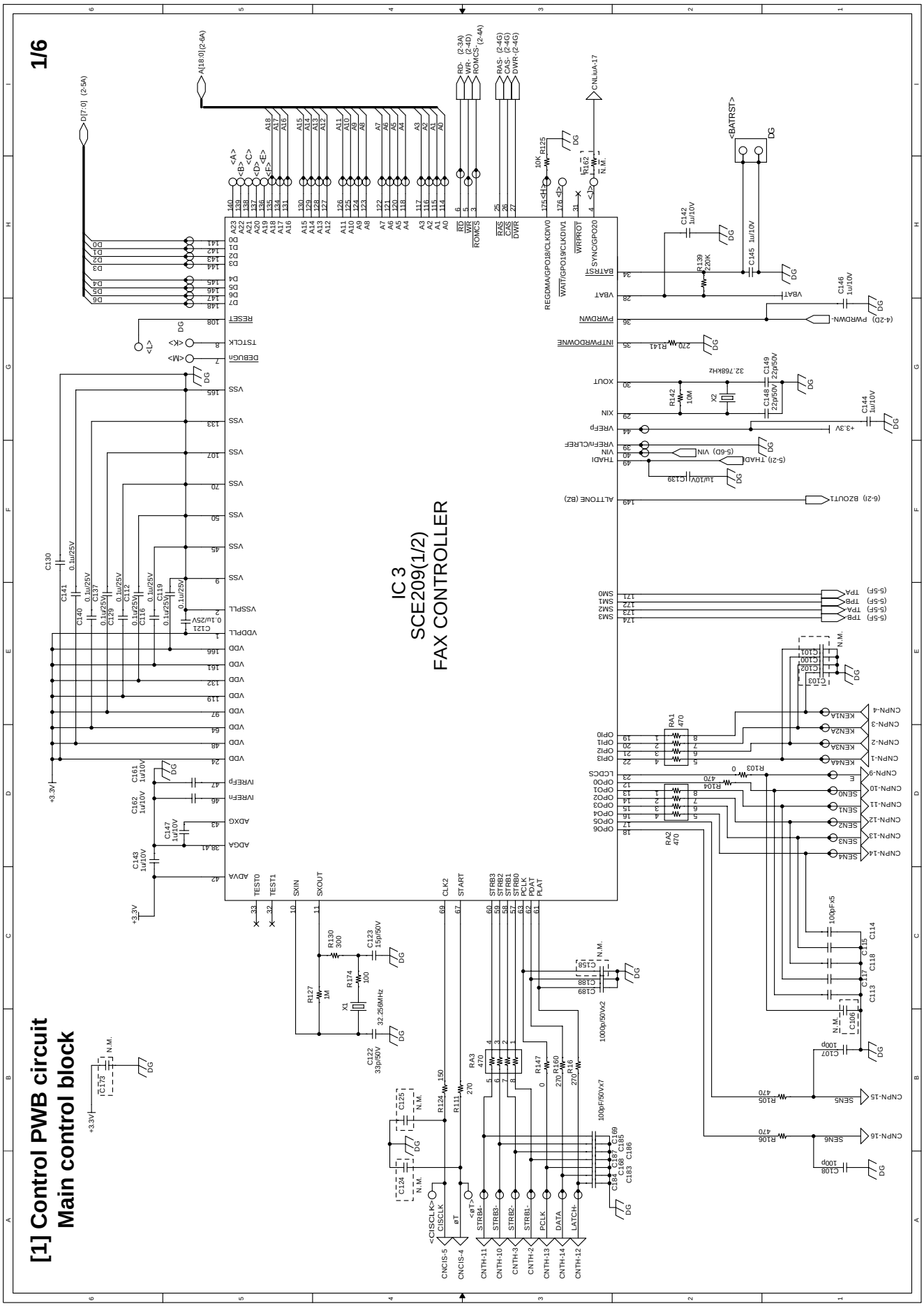
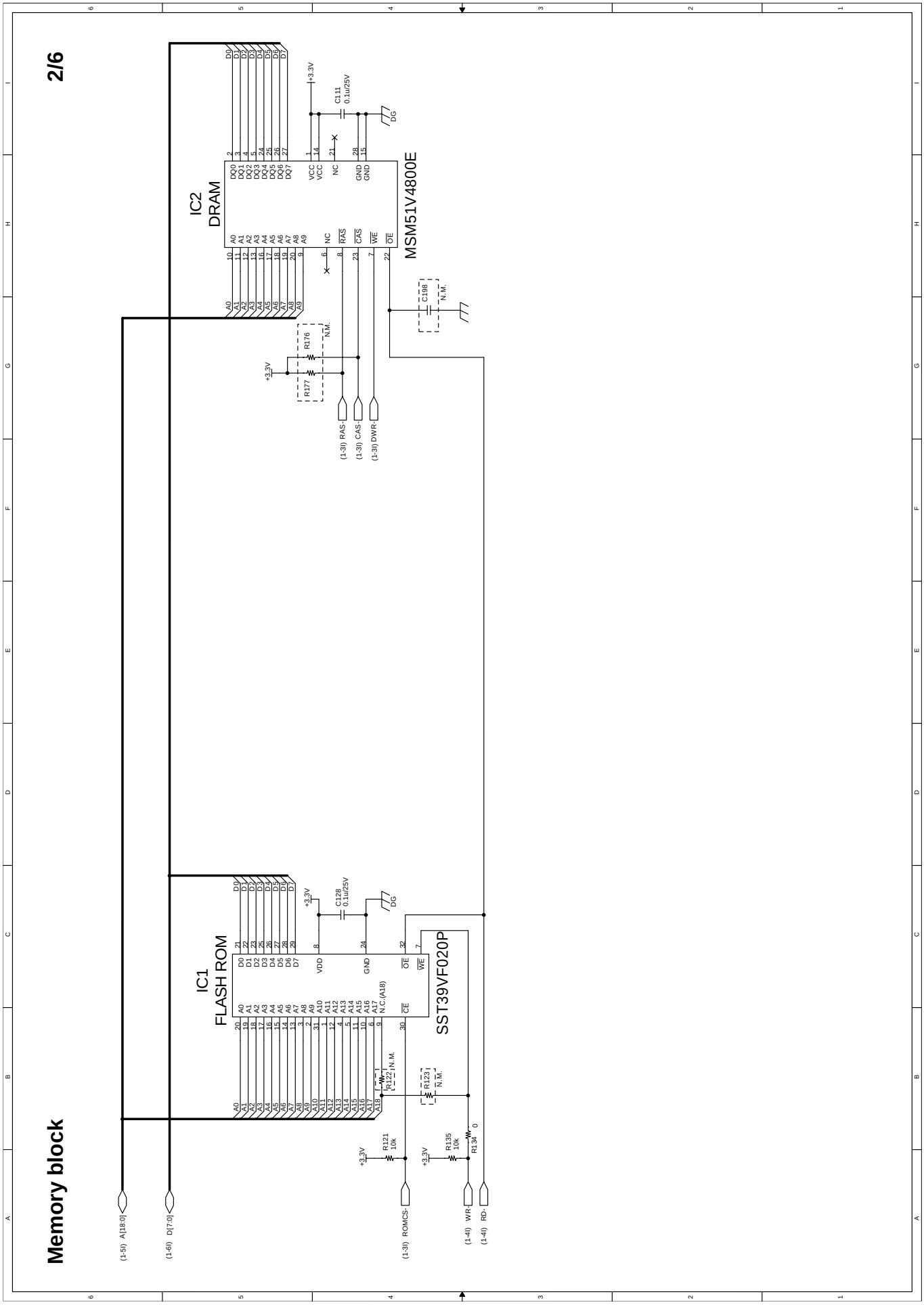
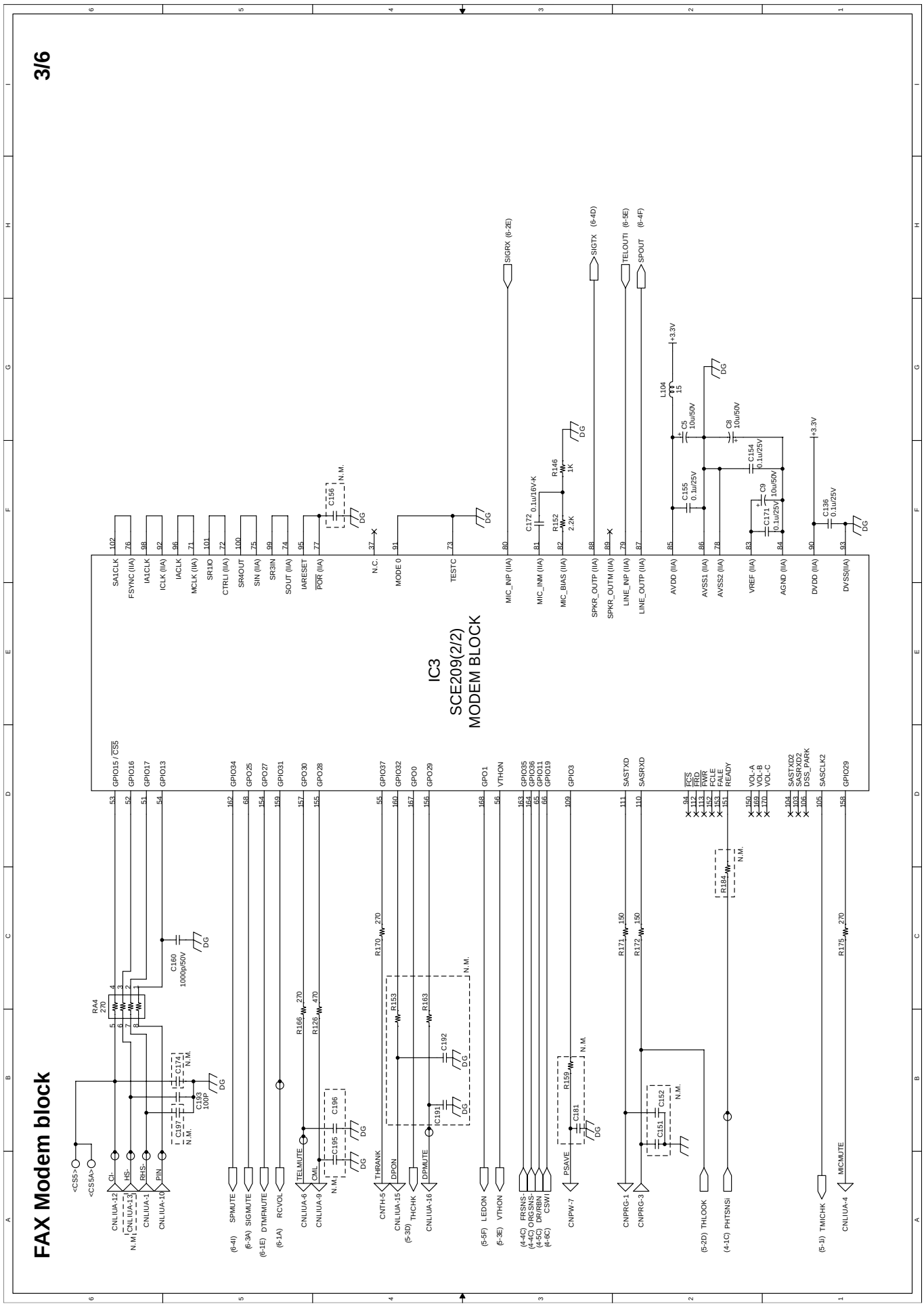


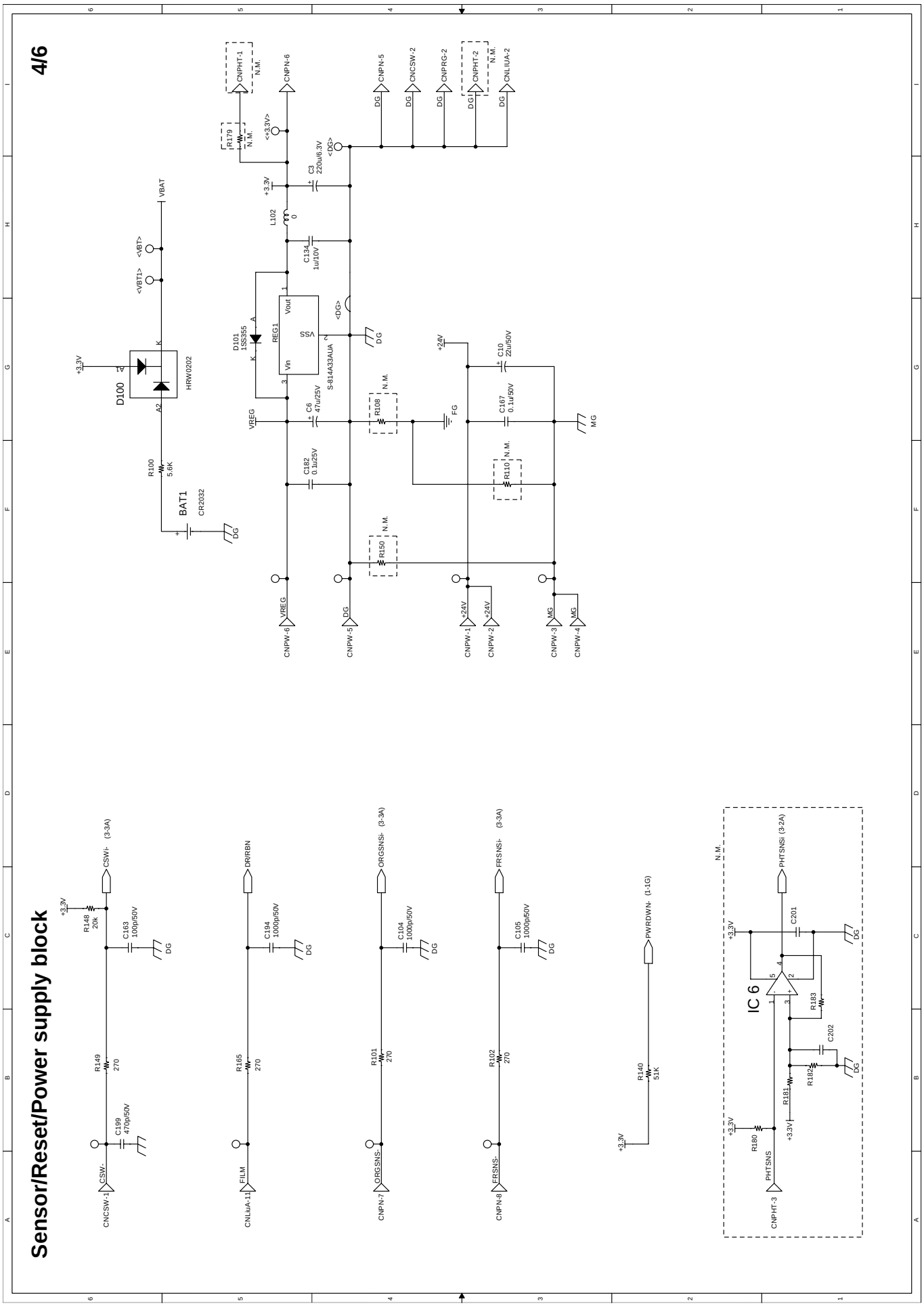
Fig. 8

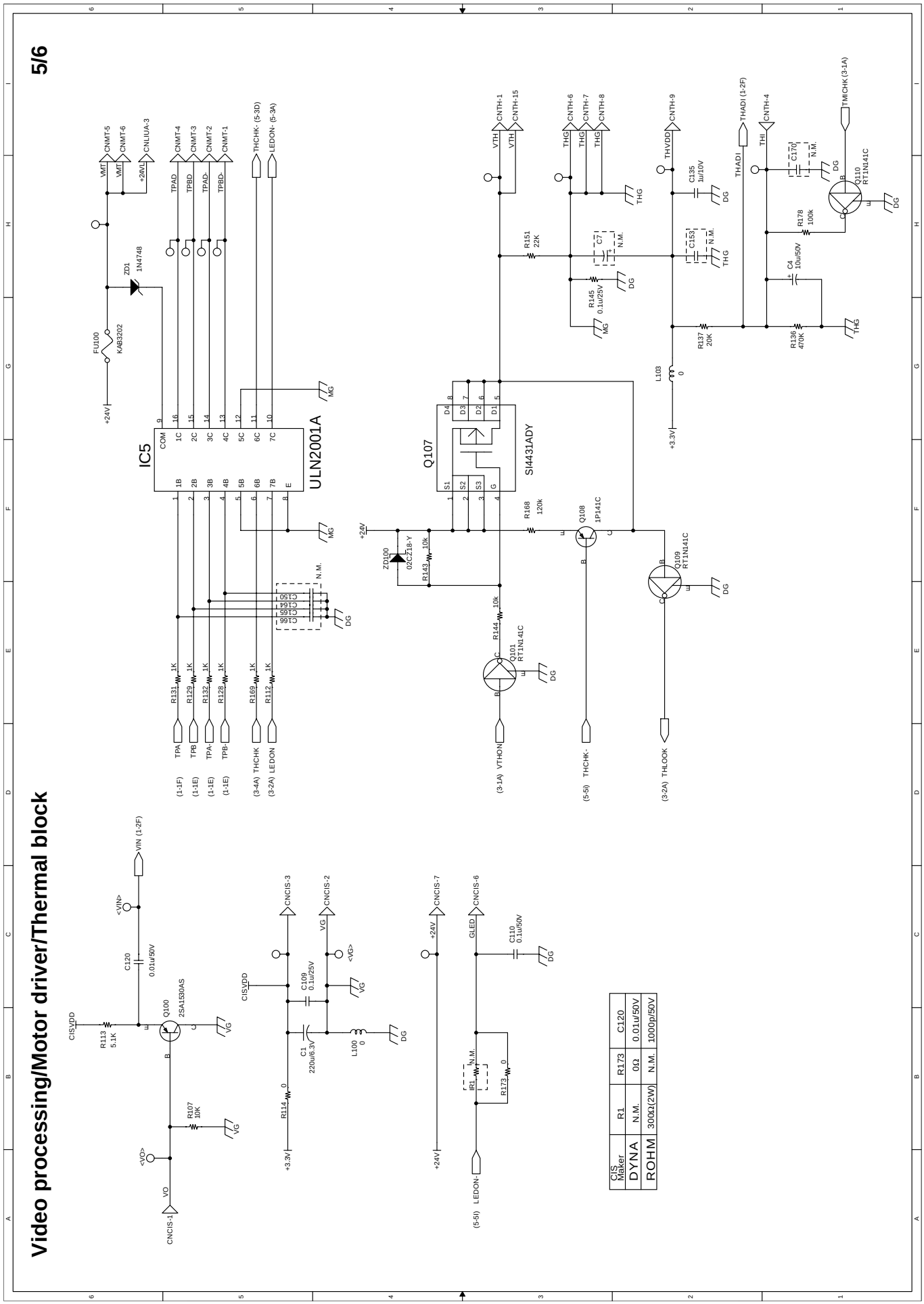
CHAPTER 6. CIRCUIT SCHEMATICS AND PARTS LAYOUT

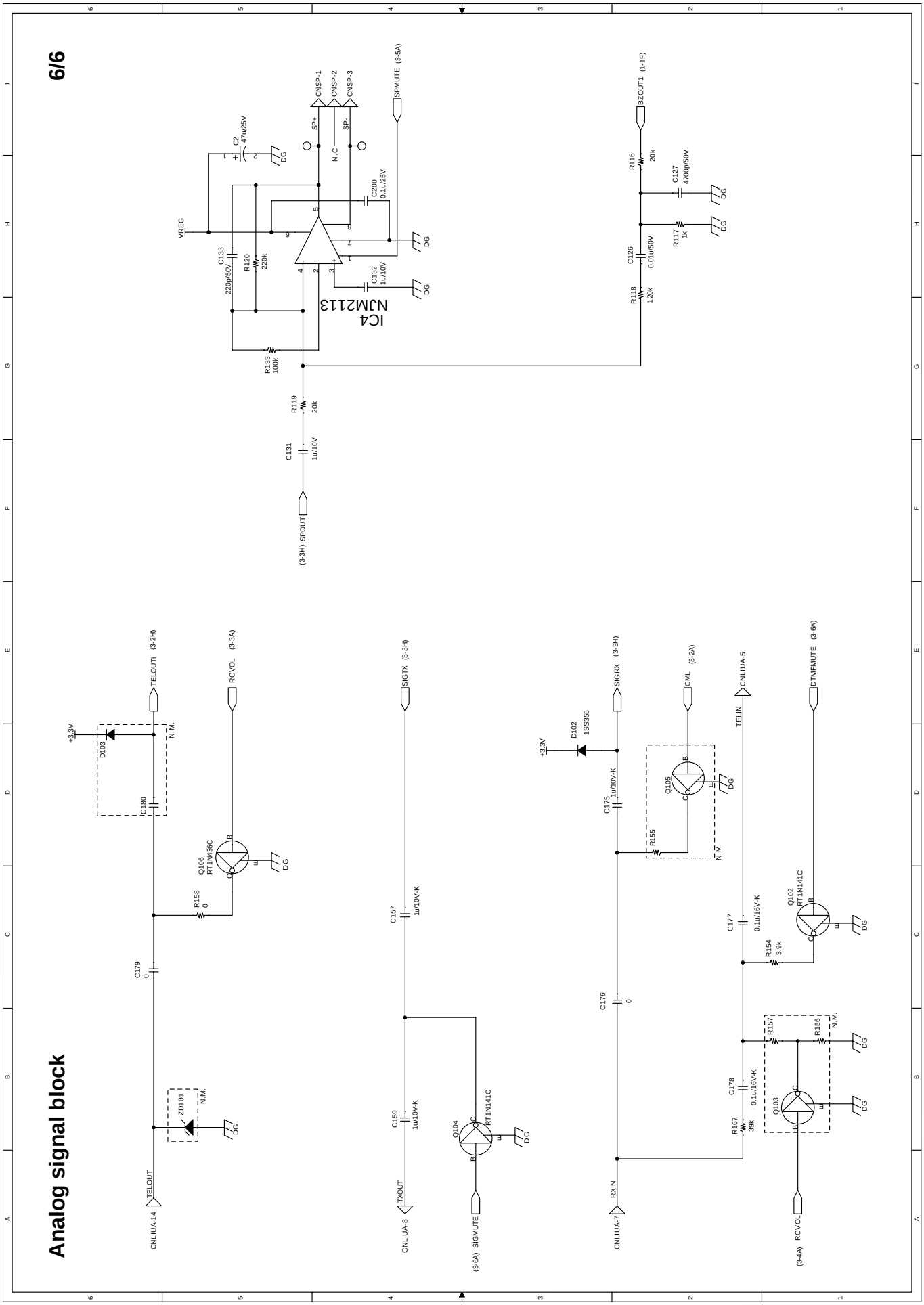



2/6
Memory block
IC2
DRAM
MSM51V4800E
IC1
FLASH ROM
SST39VF020P
+3.3V
C111
0.1u/25V
C128
0.1u/25V
C198
N.M.
R176
N.M.
R177
N.M.
R121
10k
R135
10k
R134
0
R122
N.M.
R123
N.M.
(1-5I) A[18:0]
(1-6I) D[7:0]
(1-3I) RAS-
(1-3I) CAS-
(1-3I) DWR-
(1-3I) ROMCS-
(1-4I) WR-
(1-4I) RD-

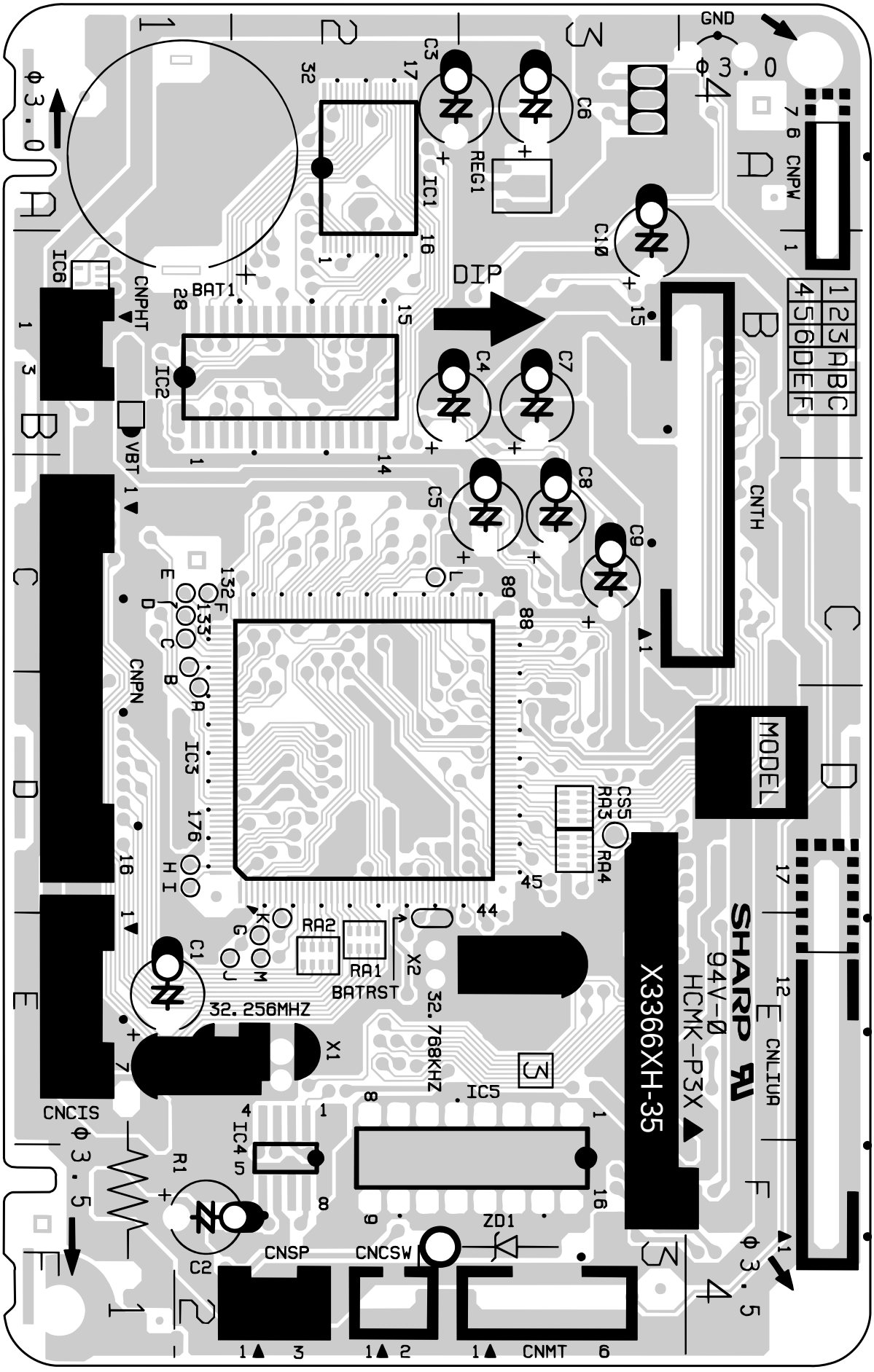

3/6
FAX Modem block
IC3
SCE209(2/2)
MODEM BLOCK
SPMUTE
SIGMUTE
DTMFMUTE
RCVOL
TELMUTE
LEDON
VTHON
PHTSNSi
THLOOK
TMICHK
MICMUTE
SIGRX (6-2E)
SIGTX (6-4D)
TELOUT (6-5E)
SPOUT (6-4F)
+3.3V
DG
N.M.


4/6
Sensor/Reset/Power supply block
D100
HRW0202
BAT1
CR2032
R100
5.6K
VBAT
<VBT>
<VBT1>
D101
1SS355
REG1
S-814A33AUA
Vout
Vin
VSS
L102
C3
220u/6.3V
C134
1u/10V
C6
47u/25V
C182
0.1u/25V
C10
22u/50V
C167
0.1u/50V
R108
R110
R150
R179
N.M.
CNPHT-1
CNPHT-2
CNPN-6
CNPN-5
CNCSW-2
CNPRG-2
CNLIUA-2
CNPW-6
CNPW-5
CNPW-1
CNPW-2
CNPW-3
CNPW-4
VREG
FG
MG
DG
+24V
+3.3V
R148
20k
C163
100p/50V
R149
270
C199
470p/50V
CSW-
CSW+
(3-3A)
CNCSW-1
R165
C194
1000p/50V
FILM
CNLiuA-11
R101
C104
ORGSNS+
ORGSNS-
CNPN-7
R102
C105
FRSNS+
FRSNS-
CNPN-8
DR/RBN
R140
51K
PWRDWN-
(1-1G)
IC 6
R180
R181
R182
R183
C201
C202
PHTSNS
PHTSNS+
(3-2A)
CNPHT-3

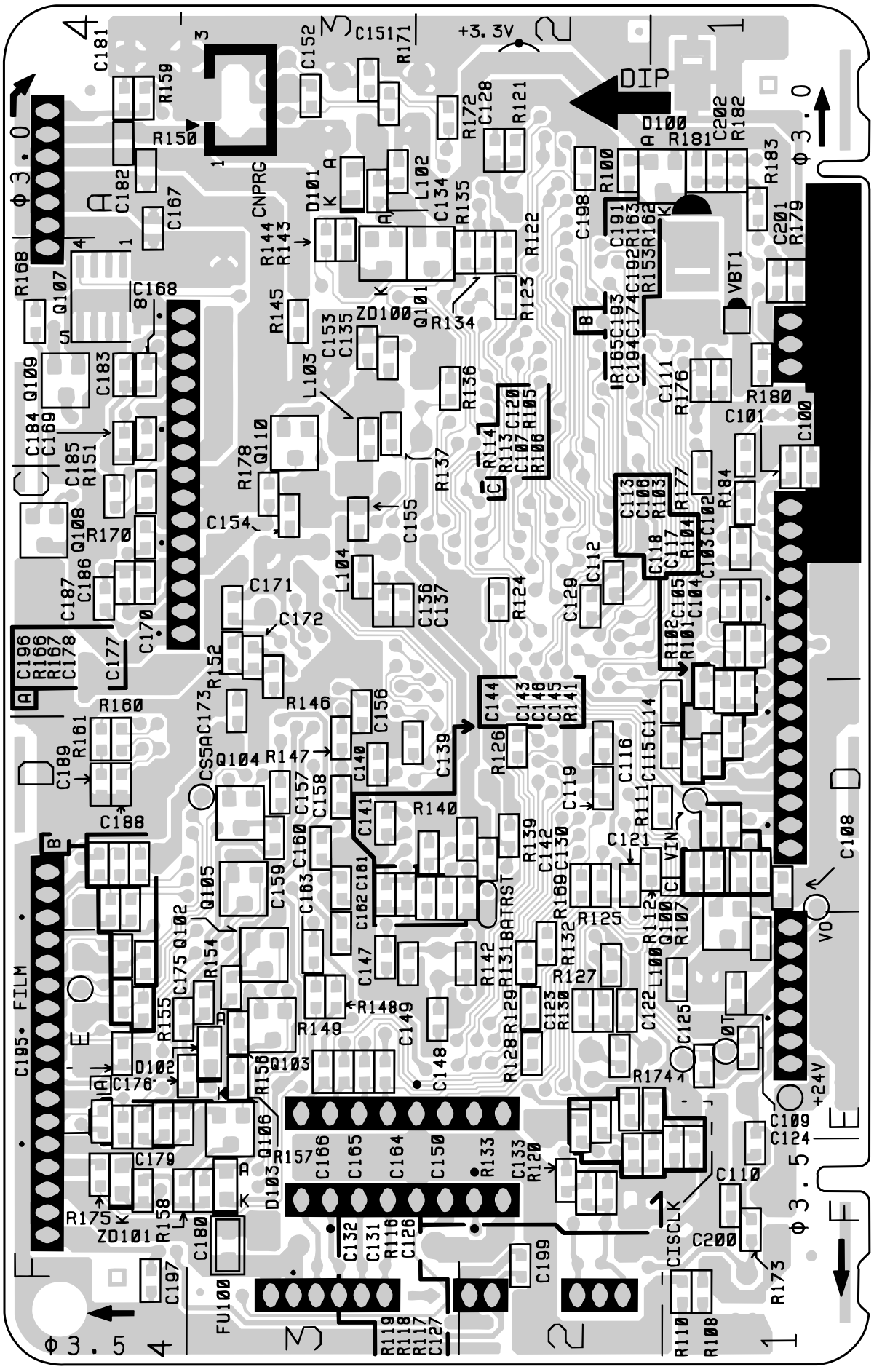

5/6
Video processing/Motor driver/Thermal block
IC5
ULN2001A
Q107
SI4431ADY
ZD1
1N4748
FU100
KAB3202
+24V
CNMT-5
CNMT-6
CNLIJA-3
CNMT-4
CNMT-3
CNMT-2
CNMT-1
THCHK- (5-3D)
LEDON- (5-9A)
TPA- (1-1E)
TPB- (1-1E)
TPA- (1-1E)
TPB- (1-1E)
THCHK (3-4A)
LEDON (3-2A)
R131 1K
R129 1K
R132 1K
R128 1K
R169 1K
R112 1K
C160 N.M.
C161 N.M.
C162 N.M.
C163 N.M.
ZD100 02CZ18-Y
R143 10k
R168 120k
Q108 1P141C
Q109 RT1N141C
Q101 RT1N141C
R144 10k
VTH
CNTH-1
CNTH-15
THG
CNTH-6
CNTH-7
CNTH-8
THVDD
CNTH-9
THADI (1-2F)
THI
CNTH-4
TMCHK (3-1A)
Q110 RT1N141C
R151 22K
C7 N.M.
R145 0.1u/25V
C135 1u/10V
C153 N.M.
R137 20K
L103 0
+3.3V
R178 100k
C4 10u/50V
R136 470K
C170 N.M.
(3-1A) VTHON
(5-5I) THCHK-
(3-2A) THLOOK
DG
MG
THG
VIN (1-2F)
<VIN>
C120 0.01u/50V
Q100 2SA1530AS
R113 5.1K
R107 10K
<VO>
VO
CNCIS-1
CISVDD
C109 0.1u/25V
C1 220u/6.3V
R114 0
L100 0
CNCIS-3
CNCIS-2
VG
<VG>
CNCIS-7
CNCIS-6
GLED
C110 0.1u/50V
IR1 N.M.
R173 0
(5-5I) LEDON-
CIS Maker | R1 | R173 | C120
DYNA | N.M. | 0Ω | 0.01u/50V
ROHM | 300Ω(2W) | N.M. | 1000p/50V


6/6
Analog signal block
IC4
NJM2113
VREG
CNSP-1
CNSP-2
CNSP-3
SP+
SP-
N.C
SPMUTE (3-5A)
BZOUT1 (1-1F)
(3-3H) SPOUT
TELOUT (3-2H)
RCVOL (3-3A)
SIGTX (3-3H)
SIGRX (3-3H)
CML (3-2A)
CNLIUA-5
DTMFMUTE (3-6A)
TELOUT
CNLIUA-14
TXOUT
CNLIUA-8
(3-6A) SIGMUTE
RXIN
CNLIUA-7
(3-4A) RCVOL
+3.3V
DG
N.M.

Control PWB parts layout (Top side)

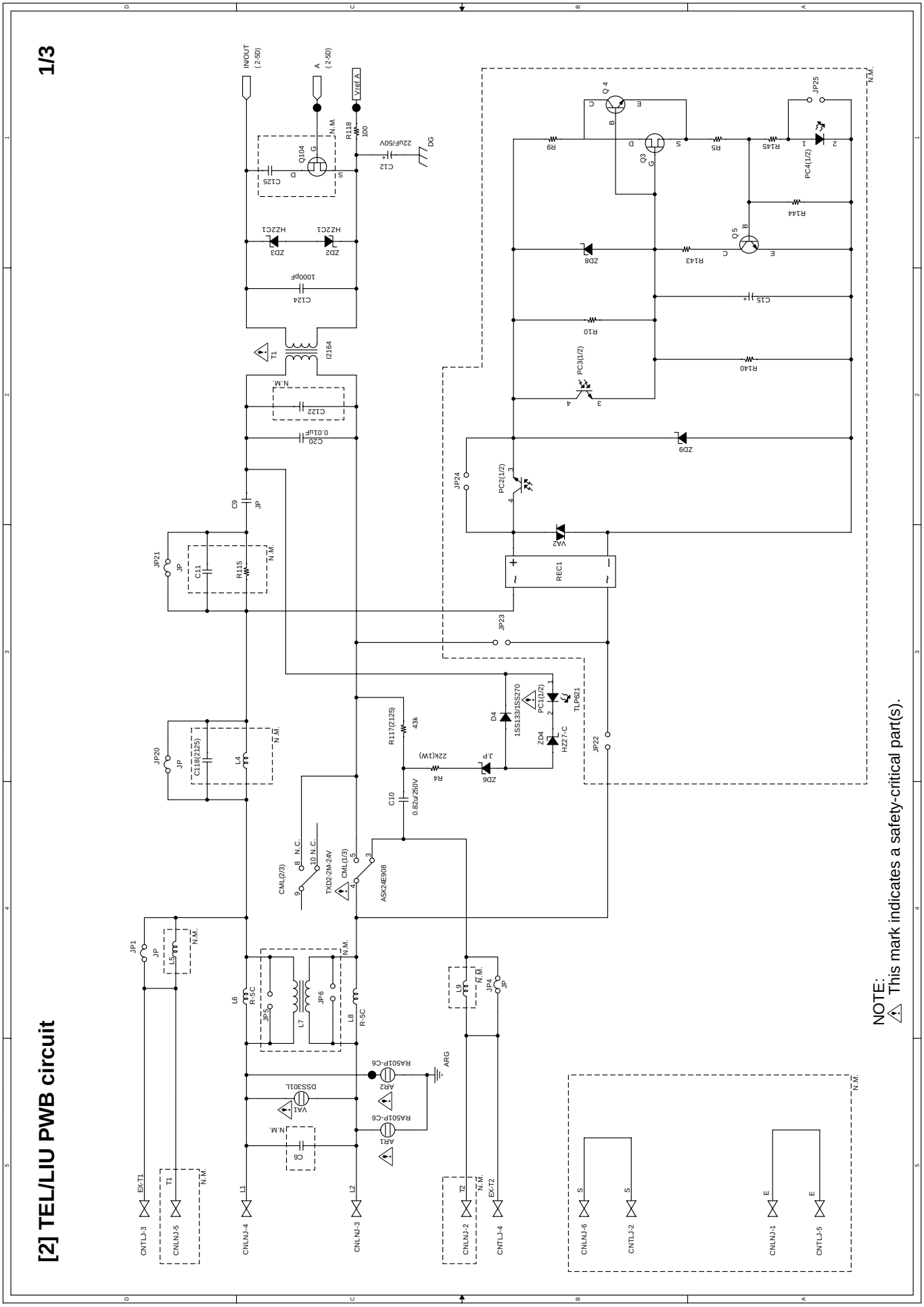


Control PWB parts layout (Bottom side)

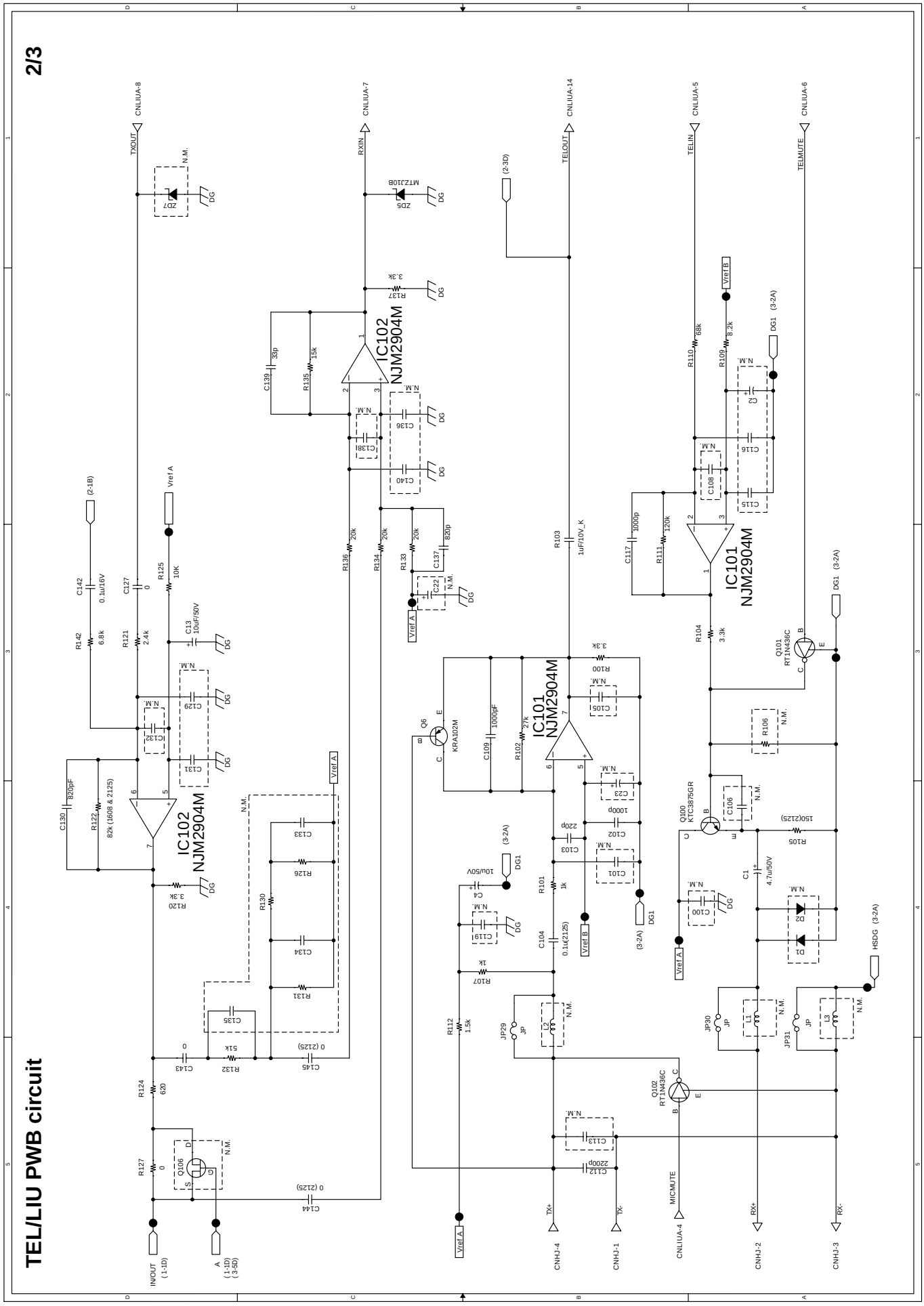


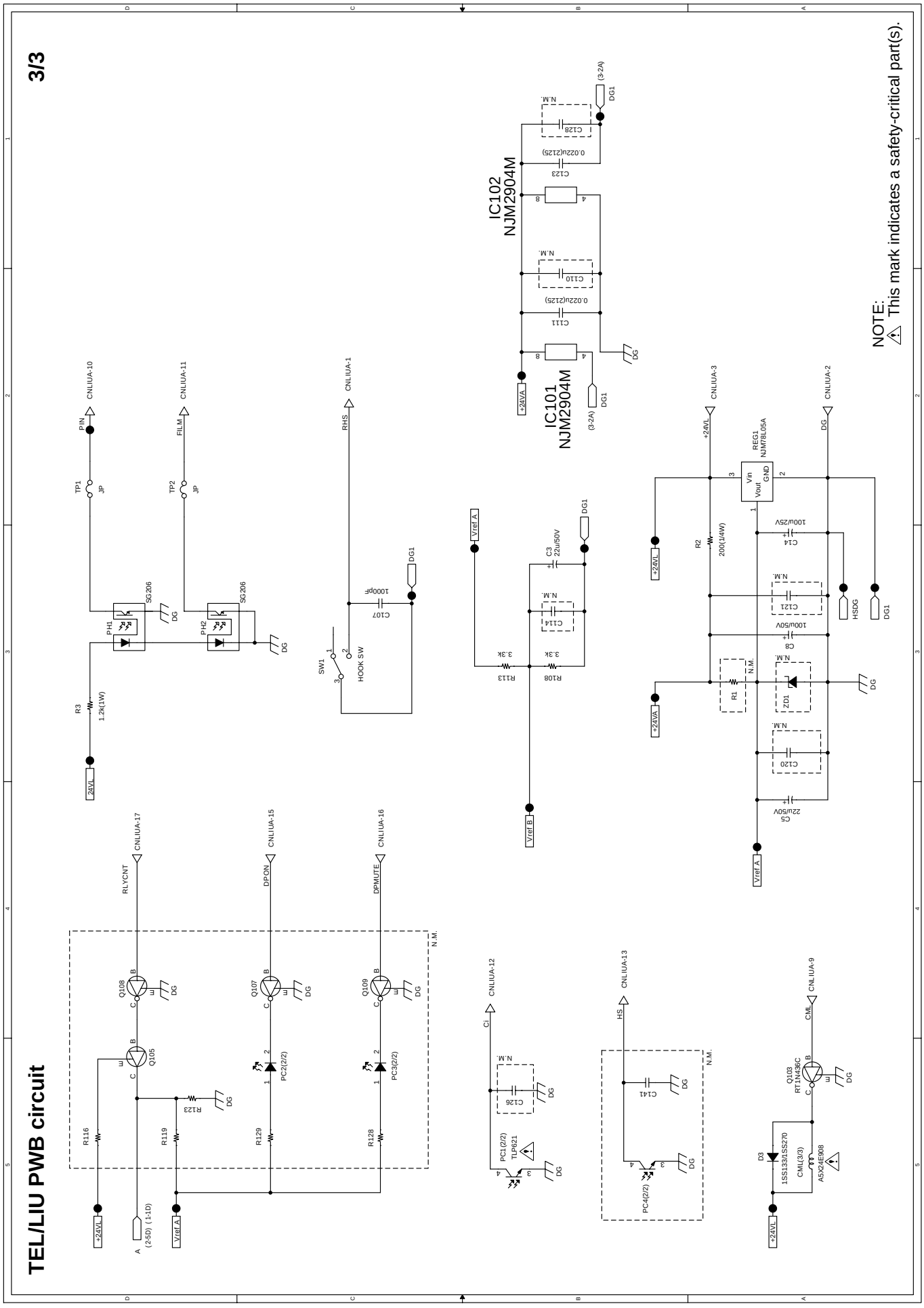
[2] TEL/LIU PWB circuit

1/3

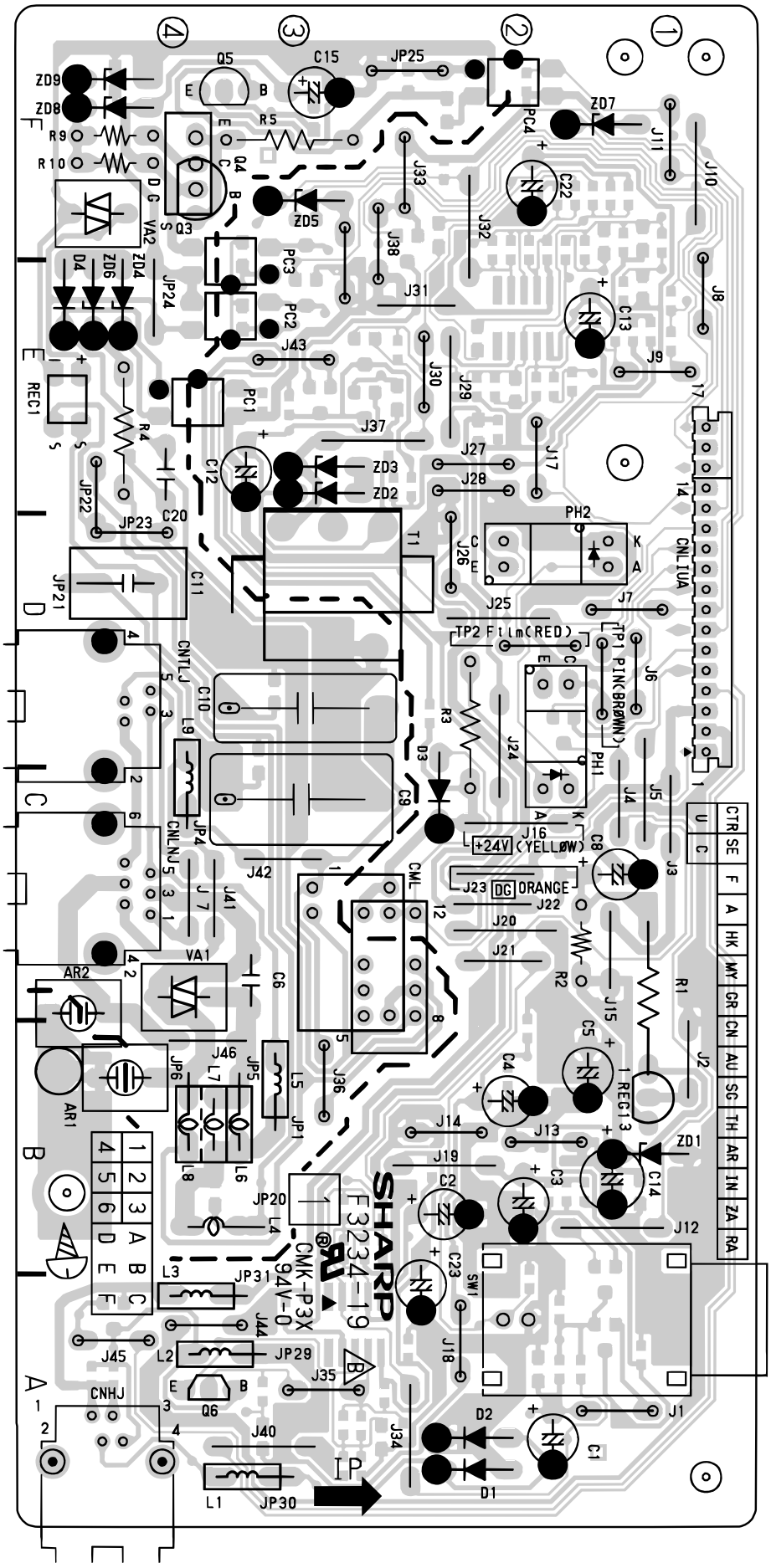


NOTE:
⚠ This mark indicates a safety-critical part(s).

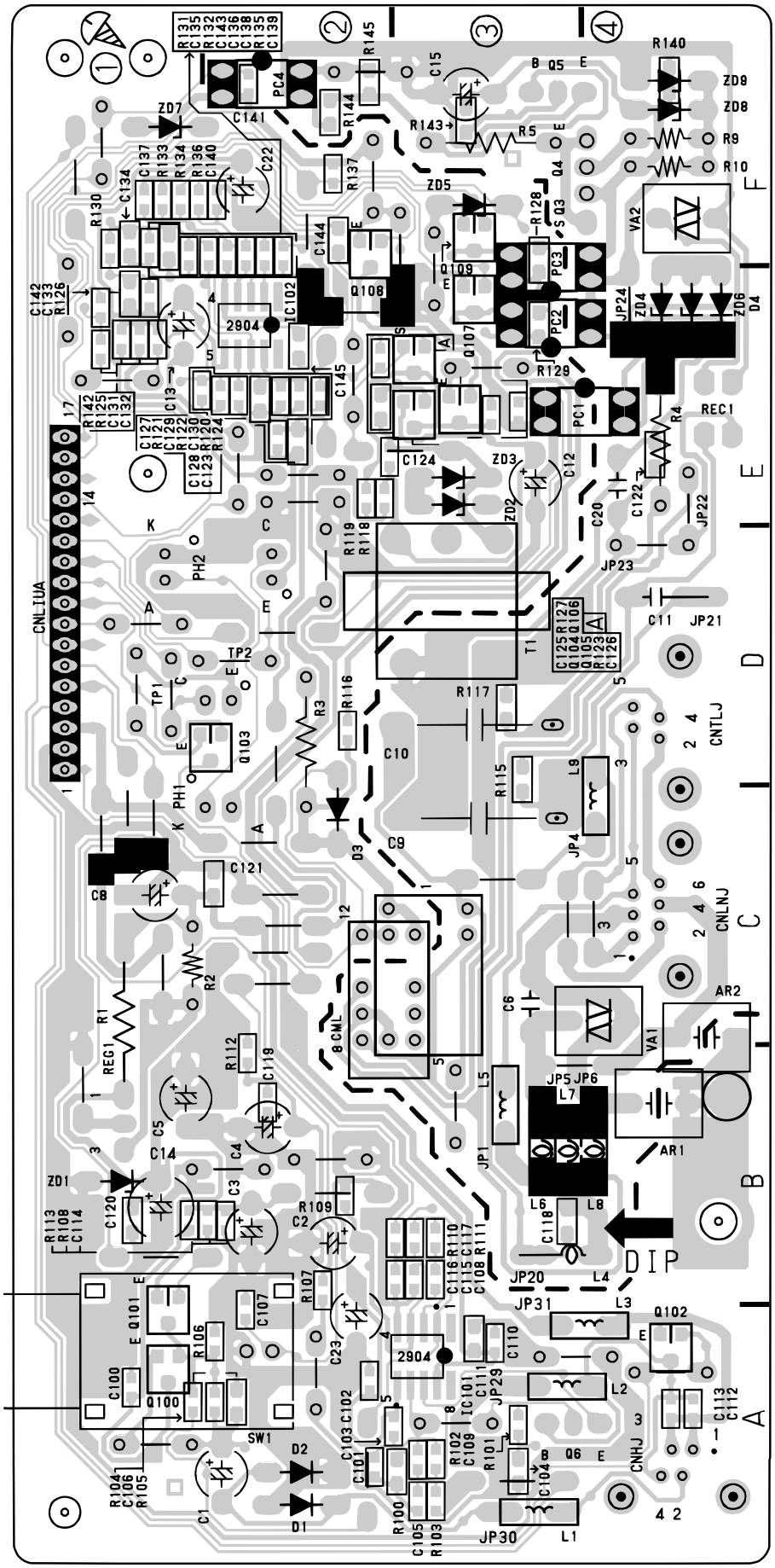

2/3
TEL/LIU PWB circuit
CNLIUA-8
CNLIUA-7
CNLIUA-14
CNLIUA-5
CNLIUA-6
TXOUT
RXIN
TELOUT
TELIN
TELMUTE
IC102 NJM2904M
IC101 NJM2904M
Vref A
Vref B
DG1 (3-2A)
HSDG (3-2A)
(2-1B)
(2-3D)
Q6 KRA102M
Q100 KTC3875GR
Q101 RT1N436C
Q102 RT1N436C
Q106
ZD7
ZD5
MTZJ10B
D1
D2
JP29
JP30
JP31
IN/OUT (1-1D)
A (1-1D) (3-5D)
CNHJ-4
CNHJ-1
CNHJ-2
CNHJ-3
CNLIUA-4
TX+
TX-
RX+
RX-
MICMUTE

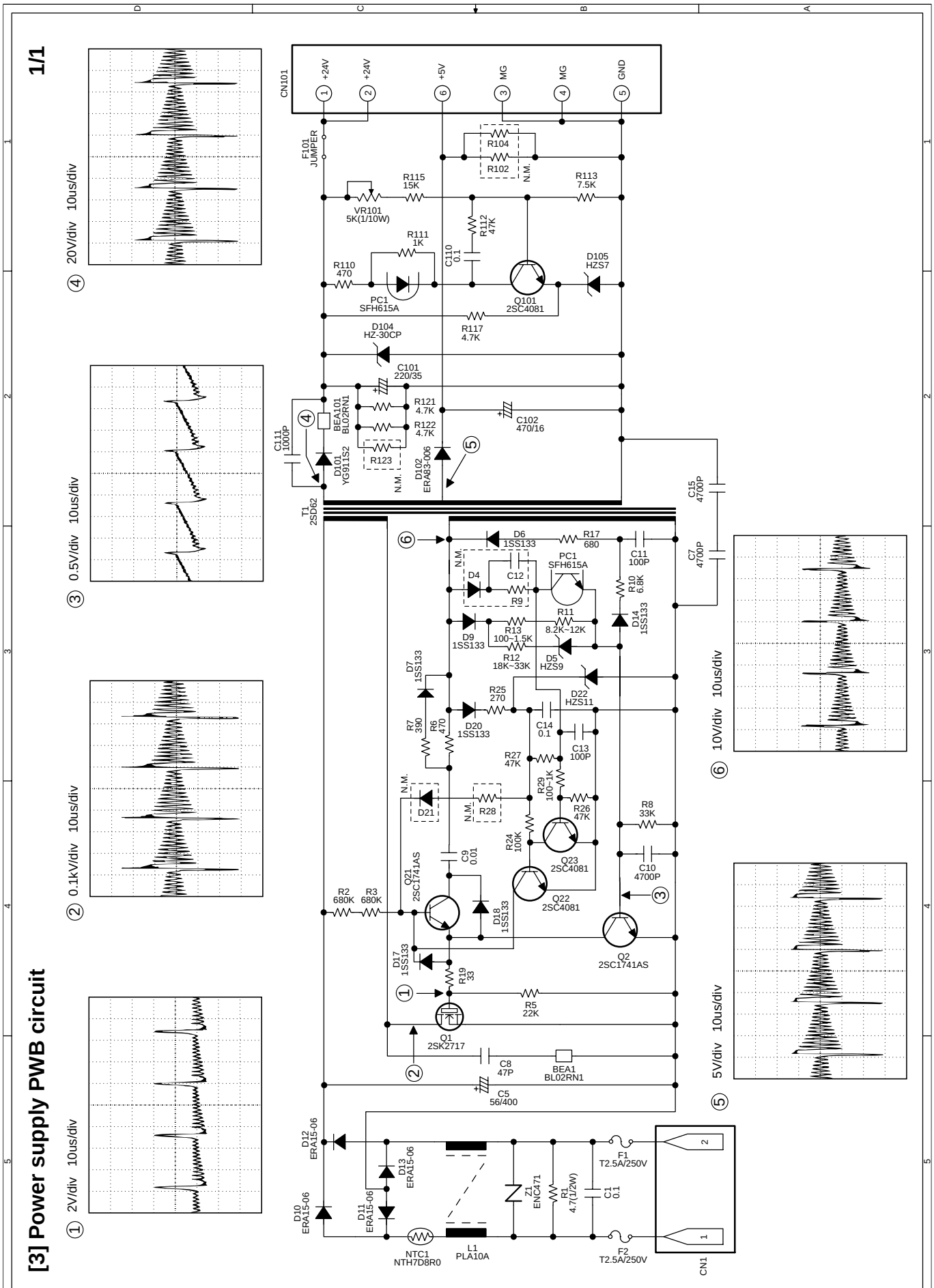

3/3
TEL/LIU PWB circuit
NOTE:
⚠ This mark indicates a safety-critical part(s).
IC102
NJM2904M
IC101
NJM2904M
REG1
NJM78L05A
CNLIUA-1
CNLIUA-2
CNLIUA-3
CNLIUA-9
CNLIUA-10
CNLIUA-11
CNLIUA-12
CNLIUA-13
CNLIUA-15
CNLIUA-16
CNLIUA-17
RHS
DG
DG1
+24VL
+24VA
Vref A
Vref B
HOOK SW
HSDG
PIN
FILM
RLYCNT
DPON
DPMUTE
CML
HS
CI
N.M.

TEL/LIU PWB parts layout (Top side)

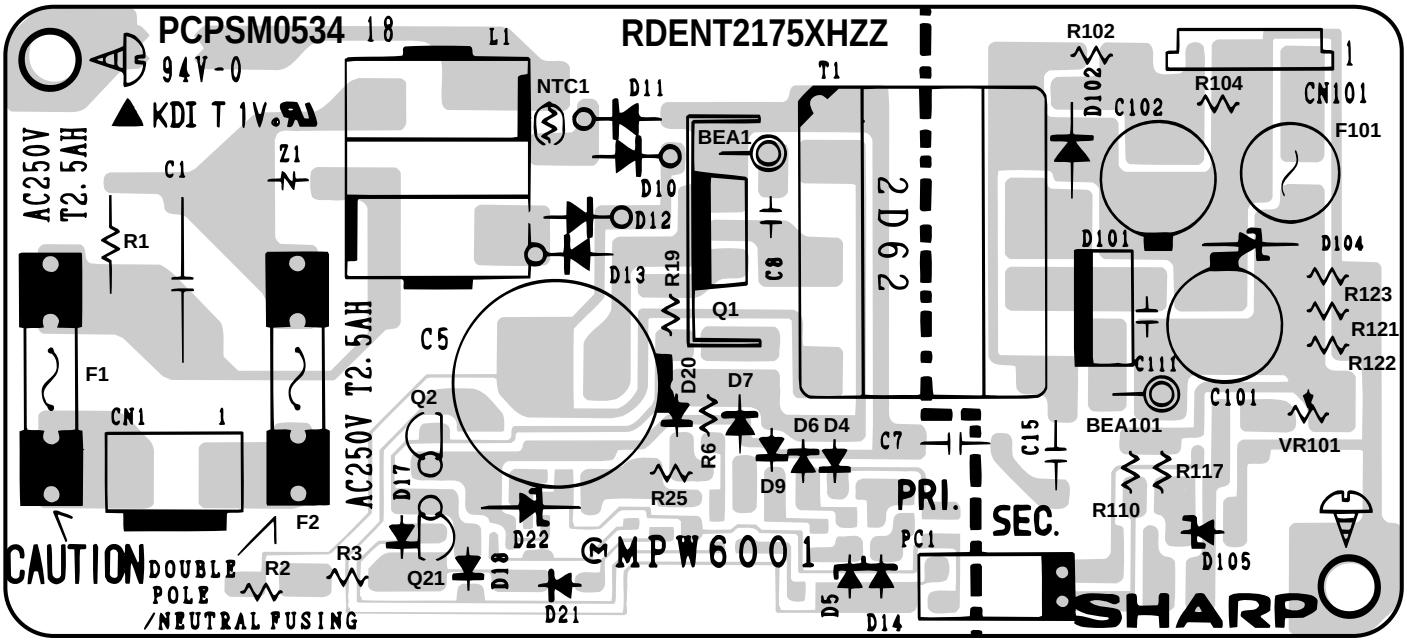


TEL/LIU PWB parts layout (Bottom side)

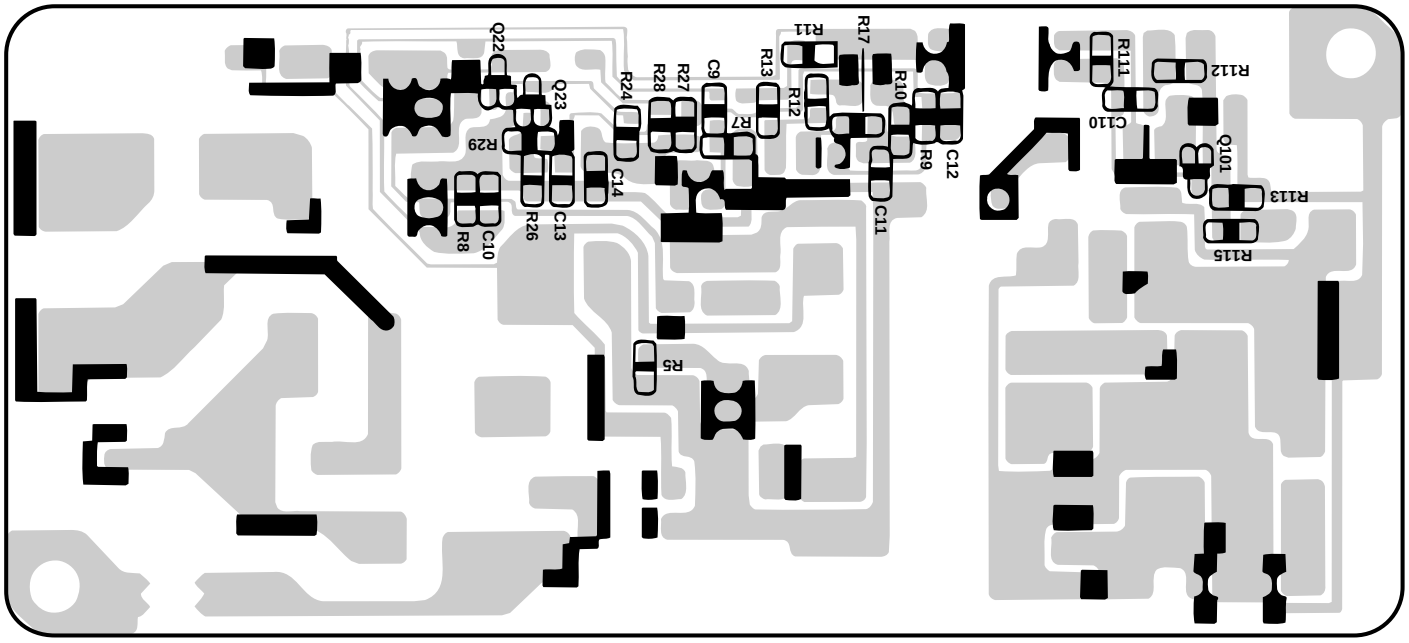


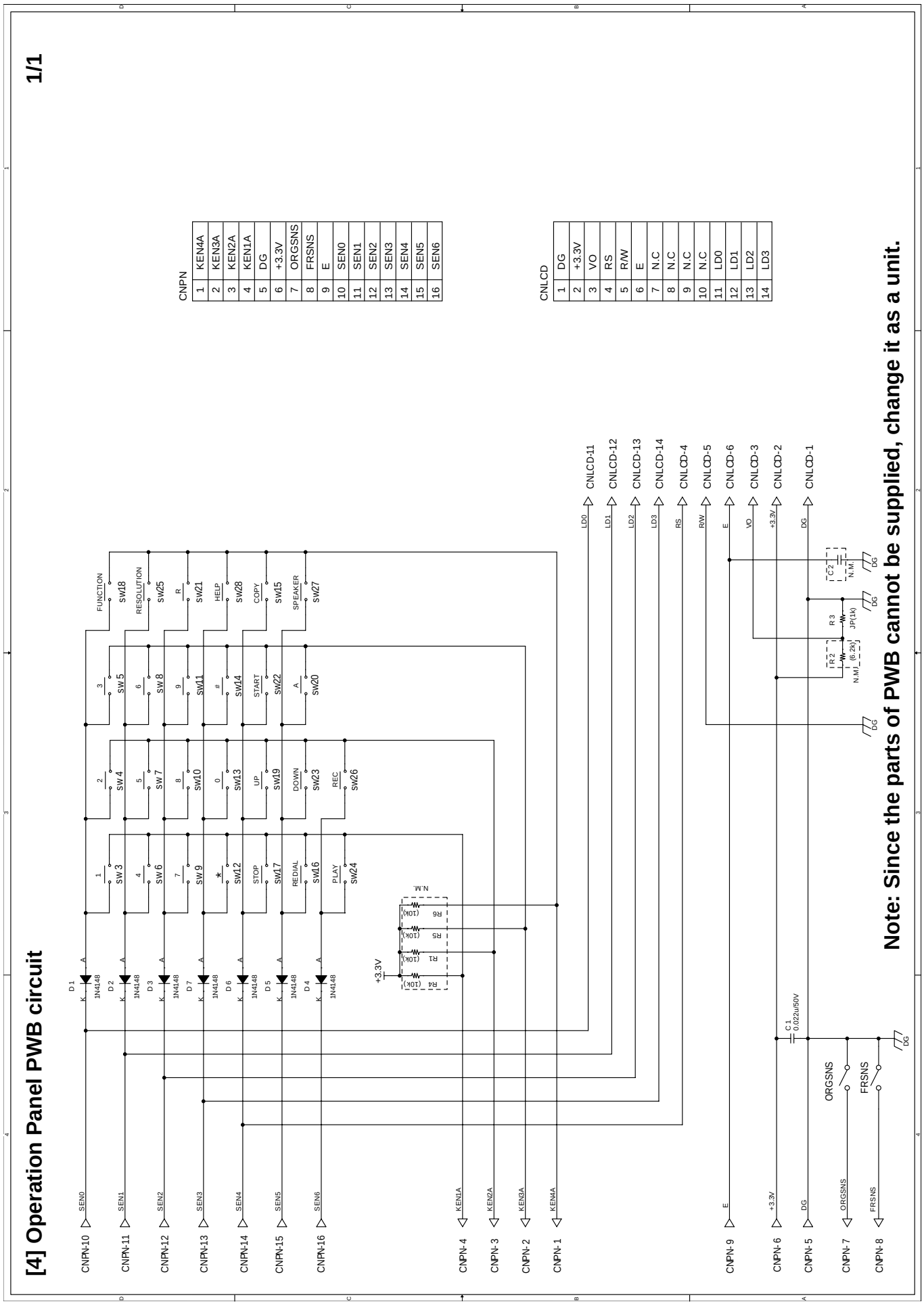

1/1
[3] Power supply PWB circuit
CN101
+24V
+24V
+5V
MG
MG
GND
F101 JUMPER
R104
R102
N.M.
R115 15K
VR101 5K(1/10W)
R113 7.5K
R112 47K
R111 1K
C110 0.1
R110 470
PC1 SFH615A
Q101 2SC4081
D105 HZS7
R117 4.7K
D104 HZ-30CP
C101 220/35
R121 4.7K
R122 4.7K
R123
C102 470/16
C111 1000P
BEA101 BL02RN1
D101 YG911S2
D102 ERA83-006
T1 2SD62
C15 4700P
C7 4700P
D6 1SS133
R17 680
C11 100P
PC1 SFH615A
D4
C12
R9
R10 6.8K
R11 8.2K~12K
D14 1SS133
D9 1SS133
R13 100~1.5K
R12 18K~33K
D5 HZS9
D7 1SS133
R25 270
D22 HZS11
R7 390
R6 470
D20 1SS133
C14 0.1
C13 100P
R27 47K
R29 100~1K
R26 47K
R8 33K
D21
R28
R24 100K
Q23 2SC4081
C9 0.01
Q21 2SC1741AS
Q22 2SC4081
C10 4700P
R2 680K
R3 680K
D18 1SS133
Q2 2SC1741AS
D17 1SS133
R19 33
R5 22K
Q1 2SK2717
C8 47P
BEA1 BL02RN1
C5 56/400
D12 ERA15-06
D13 ERA15-06
D10 ERA15-06
D11 ERA15-06
NTC1 NTH7D8R0
L1 PLA10A
Z1 ENC471
R1 4.7(1/2W)
C1 0.1
F1 T2.5A/250V
F2 T2.5A/250V
CN1
① 2V/div 10us/div
② 0.1kV/div 10us/div
③ 0.5V/div 10us/div
④ 20V/div 10us/div
⑤ 5V/div 10us/div
⑥ 10V/div 10us/div

Power supply PWB parts layout (Top side)

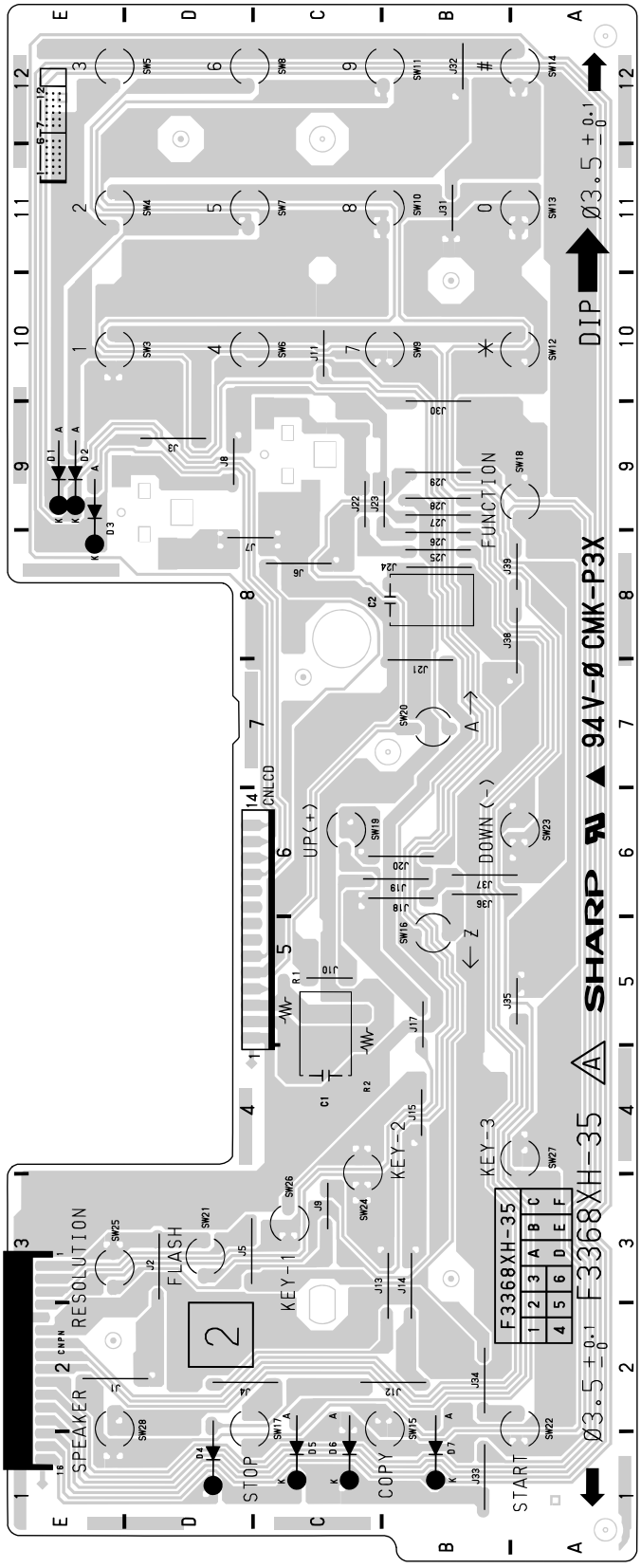


Power supply PWB parts layout (Bottom side)

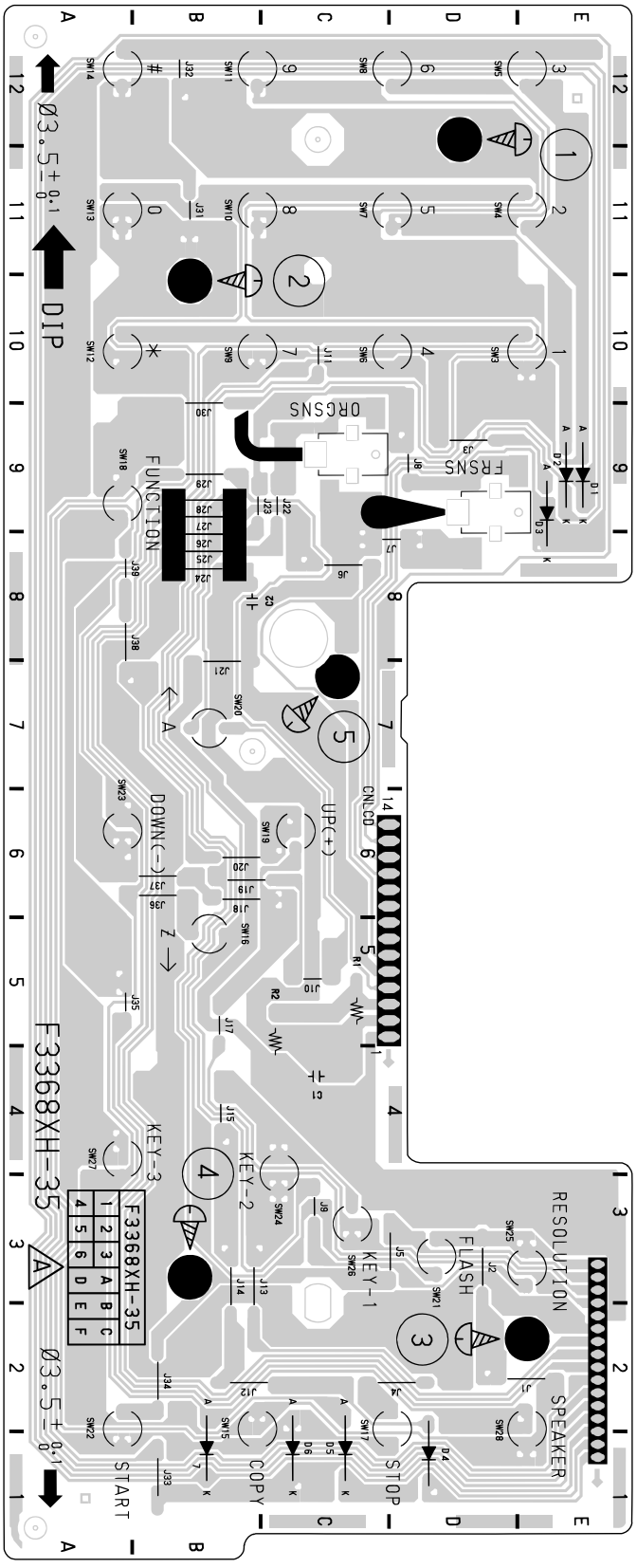



[4] Operation Panel PWB circuit
1/1
CNPN
1 KEN4A
2 KEN3A
3 KEN2A
4 KEN1A
5 DG
6 +3.3V
7 ORGSNS
8 FRSNS
9 E
10 SEN0
11 SEN1
12 SEN2
13 SEN3
14 SEN4
15 SEN5
16 SEN6
CNLCD
1 DG
2 +3.3V
3 VO
4 RS
5 R/W
6 E
7 N.C
8 N.C
9 N.C
10 N.C
11 LD0
12 LD1
13 LD2
14 LD3
FUNCTION
RESOLUTION
HELP
COPY
SPEAKER
REDIAL
UP
DOWN
REC
PLAY
STOP
START
SW1
SW2
SW3
SW4
SW5
SW6
SW7
SW8
SW9
SW10
SW11
SW12
SW13
SW14
SW15
SW16
SW17
SW18
SW19
SW20
SW21
SW22
SW23
SW24
SW25
SW26
SW27
SW28
D1
D2
D3
D4
D5
D6
D7
1N4148
+3.3V
R1 (10K)
R2 (10K)
R3 (10K)
R4 (10K)
R5 (10K)
R6 (10K)
N.M.
R2 (6.2k)
R3 JP(1k)
C1 0.022u/50V
C2 N.M.
DG
SEN0
SEN1
SEN2
SEN3
SEN4
SEN5
SEN6
KEN1A
KEN2A
KEN3A
KEN4A
LD0
LD1
LD2
LD3
RS
R/W
E
VO
+3.3V
DG
ORGSNS
FRSNS
CNLCD-11
CNLCD-12
CNLCD-13
CNLCD-14
CNLCD-4
CNLCD-5
CNLCD-6
CNLCD-3
CNLCD-2
CNLCD-1
CNPN-10
CNPN-11
CNPN-12
CNPN-13
CNPN-14
CNPN-15
CNPN-16
CNPN-4
CNPN-3
CNPN-2
CNPN-1
CNPN-9
CNPN-6
CNPN-5
CNPN-7
CNPN-8
Note: Since the parts of PWB cannot be supplied, change it as a unit.

Operation panel PWB parts layout (Top side)



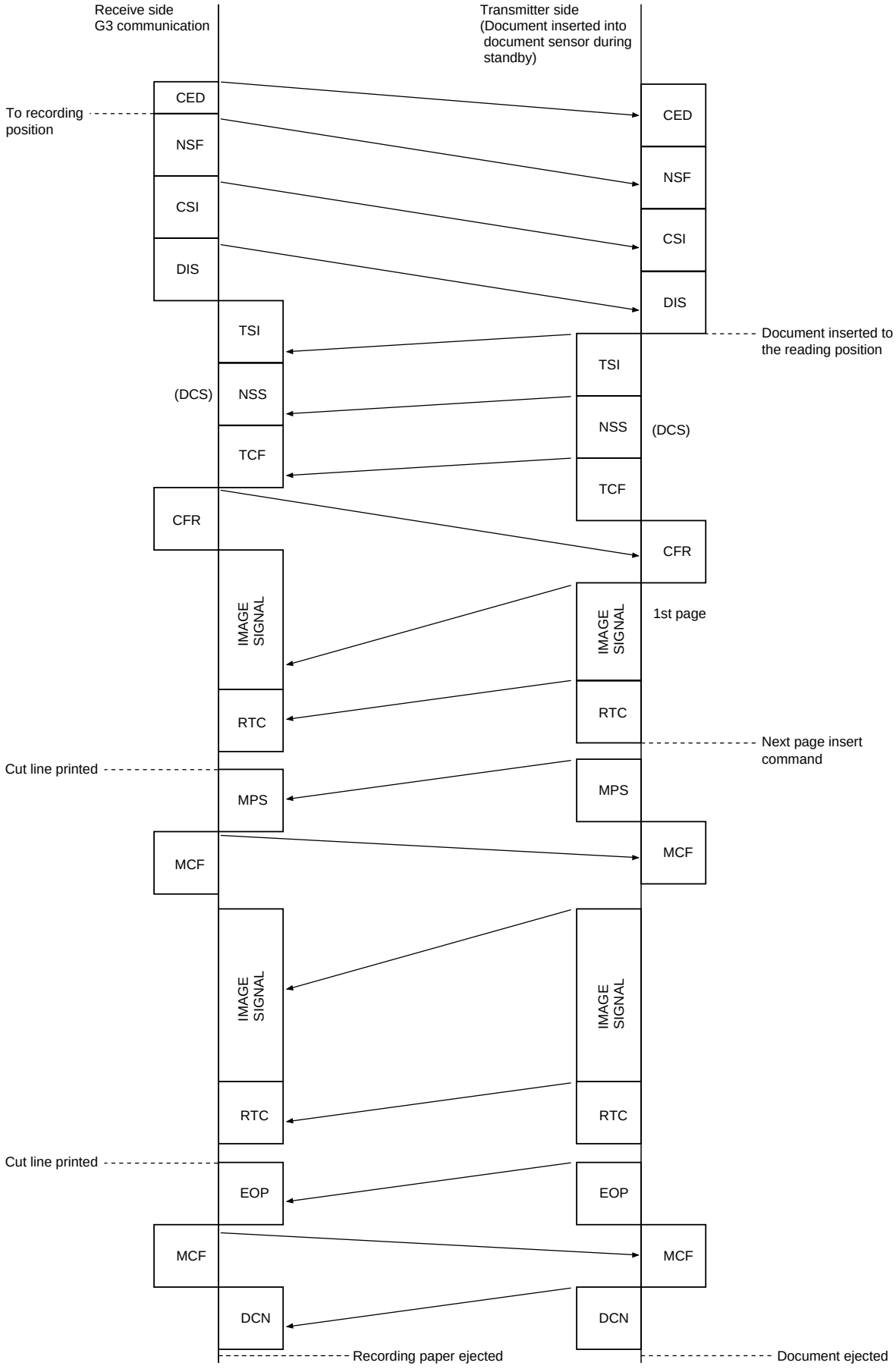
Operation panel PWB parts layout (Bottom side)



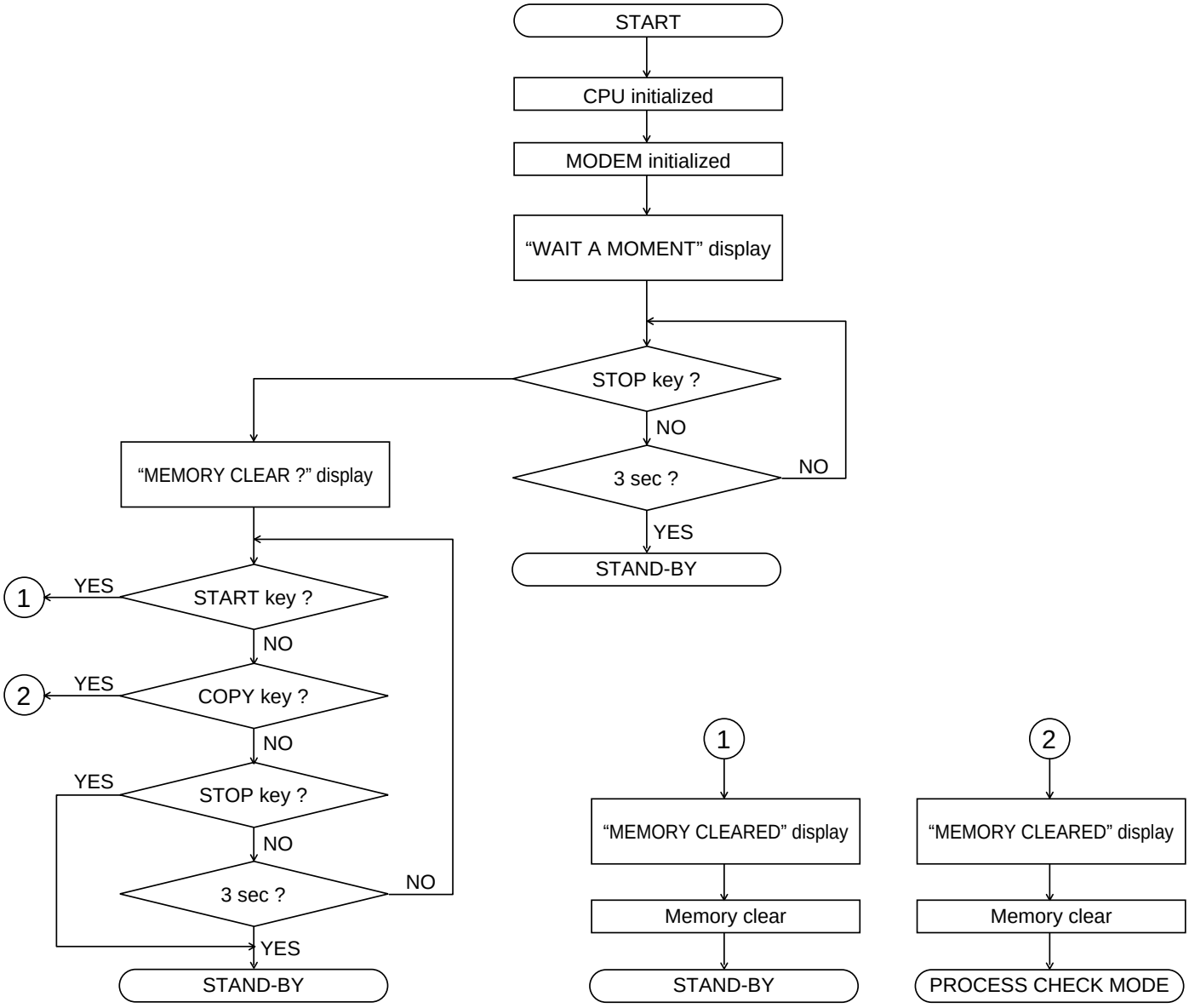
Note: Since the parts of PWB cannot be supplied, change it as a unit.

CHAPTER 7. OPERATION FLOWCHART

[1] Protocol



[2] Power on sequence



CHAPTER 8. OTHERS

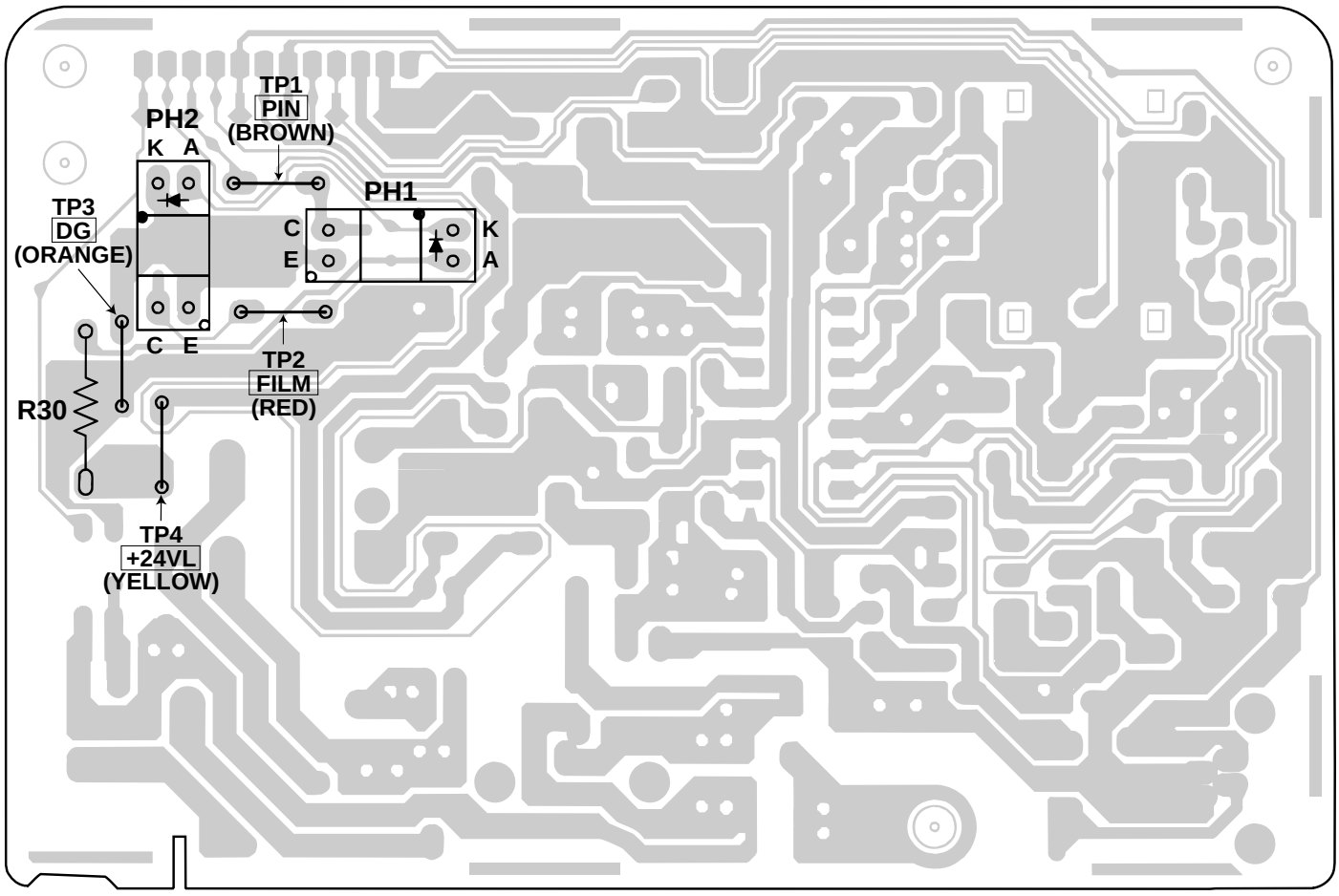
[1] Service tools

1. List

NO.	PARTS CODE	DESCRIPTION	Q'TY	PRICE RANK
1	CPWBF3201SCS1	Extension board unit (TEL/LIU PWB)	1	BA
2	PSHEZ3579SCZZ	Shading wave memory standard paper	1	AD

Extension board unit

TEL/LIU PWB

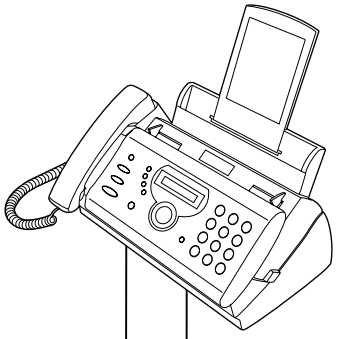


NO.	PARTS CODE	DESCRIPTION	Q'TY	PRICE RANK
1	QCNWG471BSCZZ	SPEAKER RELAY CABLE	1	AN
2	QCNWG206BSCZZ	PANEL RELAY CABLE	1	AT
3	QCNWG202BSCZZ	CIS RELAY CABLE	1	AN
4	QCNWG205BSCZZ	HEAD RELAY CABLE	1	AS
5	QCNWG204BSCZZ	CAM SWITCH RELAY CABLE	1	AG
6	QCNWG242BSCZZ	MOTOR RELAY CABLE	1	AM
7	QCNWG201BSCZZ	SENSOR RELAY CABLE	1	BB
8	VRS-RE3AA122J	RESISTOR (1W 1.2KΩ ±5%)[R30]	1	AC
9	VHPSG206S//-1	PHOTO TRANSISTOR [PH1]	1	AG
10	VHPSG206S//-1	PHOTO TRANSISTOR [PH2]	1	AG

2. Description

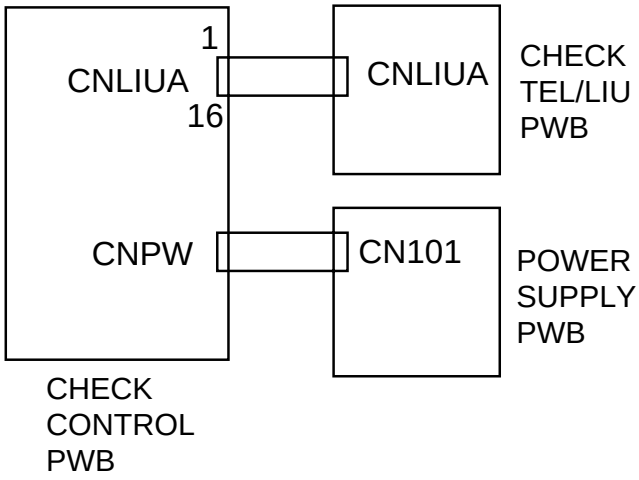
2-1. Relay board unit

1. Remove the TEL/LIU PWB, control PWB and Power Supply PWB from this unit, and mount the relay board unit instead.
   - Before connecting the wiring to the relay board unit, set the test PWB switches to the fixed position.
2. The setting is as follows.



Relay cable

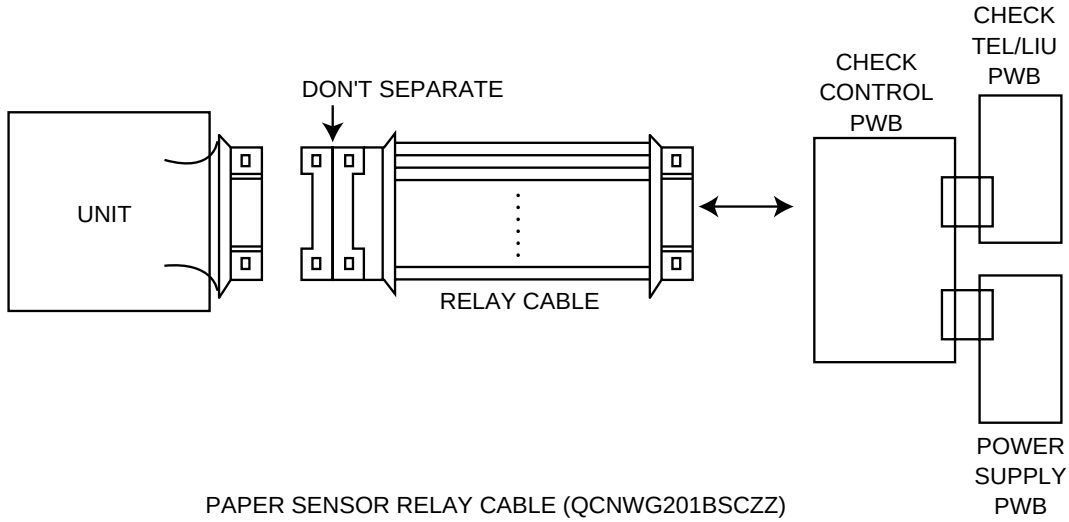
- The relay cables are used as one pair.
- The hook switch is manually operated.



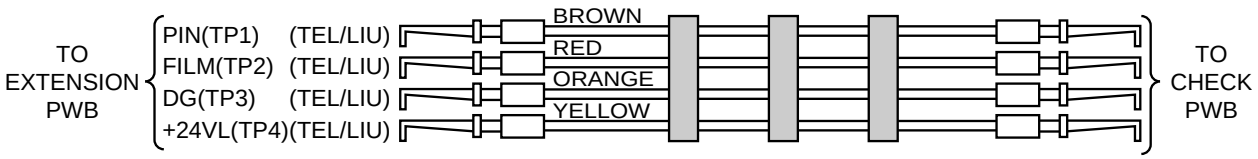
The hook switch is operated by the mechanical unit switch and the test PWB switch. When performing installation in the machine unit, set the test PWB switches to the fixed position.

	Mechanical unit	PWB to be tested
	Actual operation with mechanical unit	
Hook SW	ON/OFF operation	ON-HOOK
	PWB sensor check	
Hook SW	ON-HOOK	ON/OFF operation

NOTE



PAPER SENSOR RELAY CABLE (QCNWG201BSCZZ)



3. Shading paper

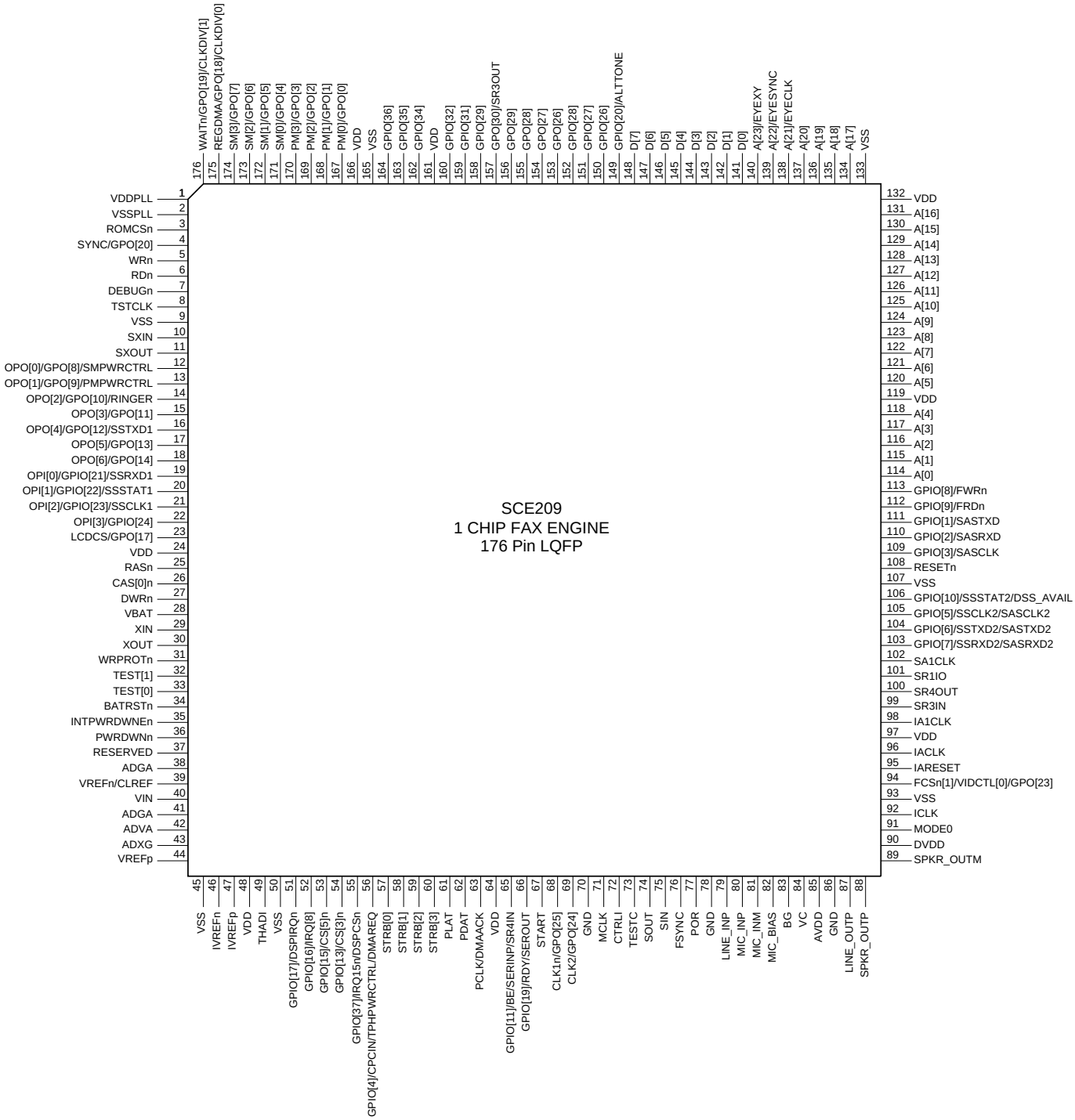
The white and black basis is applied to remember the shading waveform. Be sure to perform this operation when replacing the battery or replacing the control PWB. Execute in the shading mode of DIAG mode.

SHADING WAVE MEMORY STANDARD PAPER (PSHEZ3579SCZZ)

[2] IC signal name

CONTROL PWB UNIT

IC3: VHiSCE209//-1 (SCE209)



[3] Rewriting version up the FLASH ROM

Refer to the Service Manual of FO-A650SG.

SHARP **PARTS GUIDE**

UX-P410
FO-P610
MODEL NX-P160

MODEL	SELECTION CODE	DESTINATION
UX-P410	TH	Thailand
FO-P610	TH	Thailand
NX-P160	TH	Thailand

CONTENTS

1 Cabinet, etc.

2 Top cover/Sub frame

3 Upper cabinet/Document guide upper

4 Drive unit

5 Packing material & Accessories

6 Control PWB unit

7 TEL/LIU PWB unit

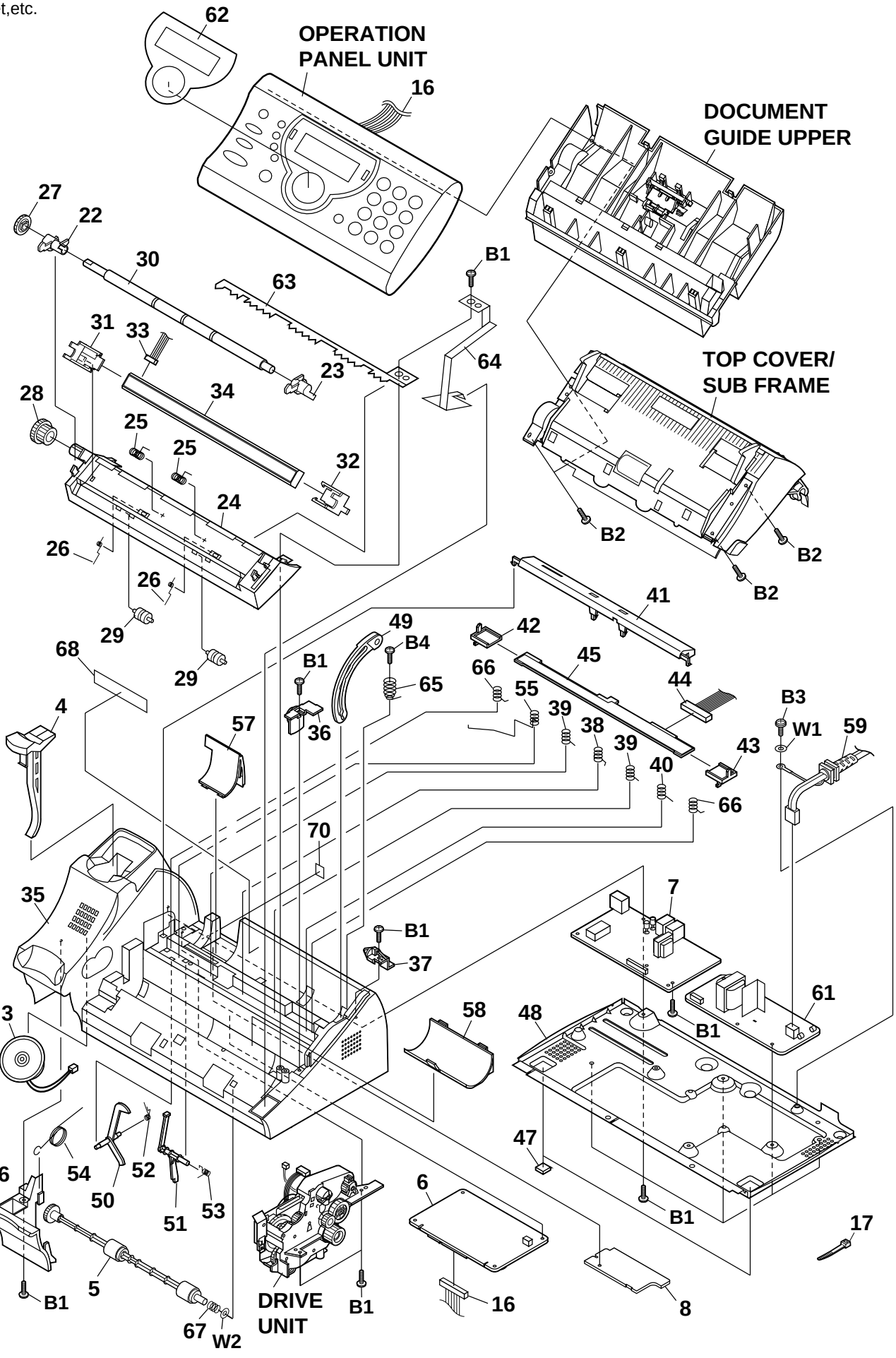
8 Power supply PWB unit

9 Operation panel PWB unit

■ Index

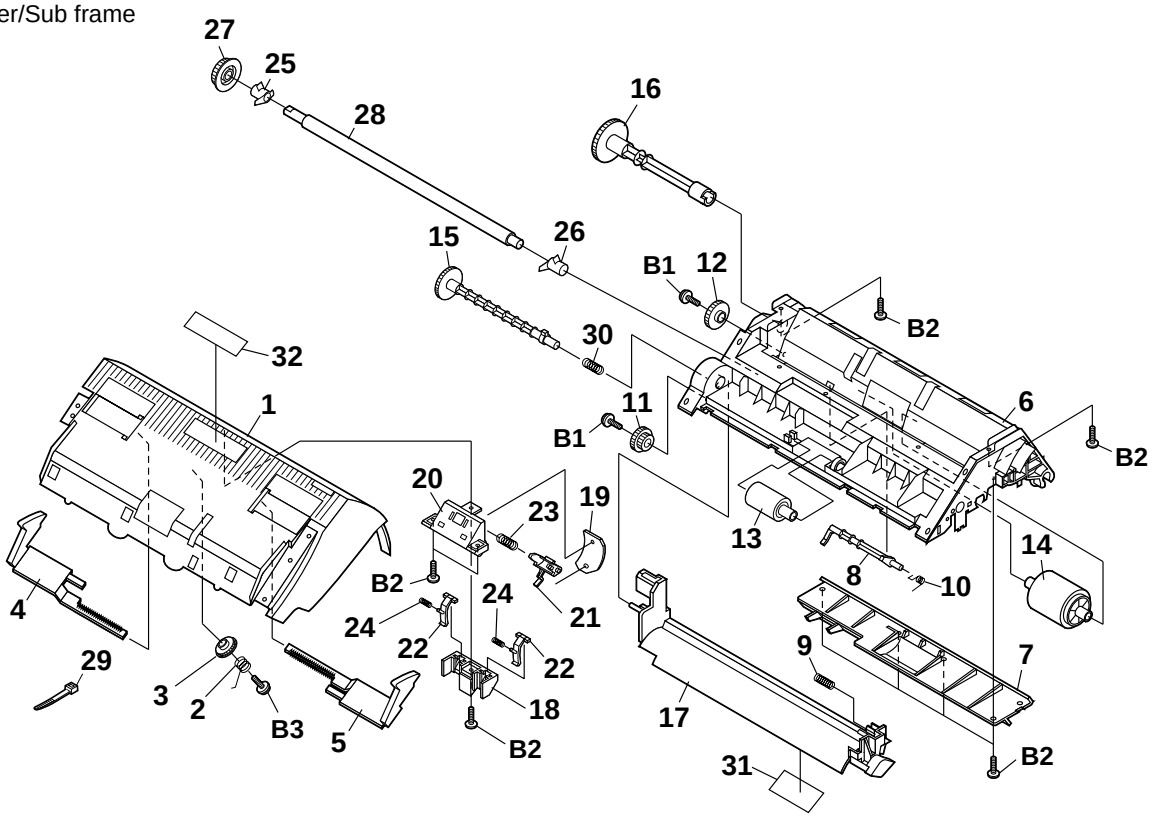
Because parts marked with "⚠" are indispensable for the machine safety maintenance and operation, it must be replaced with the parts specific to the product specification.

[1] Cabinet,etc.



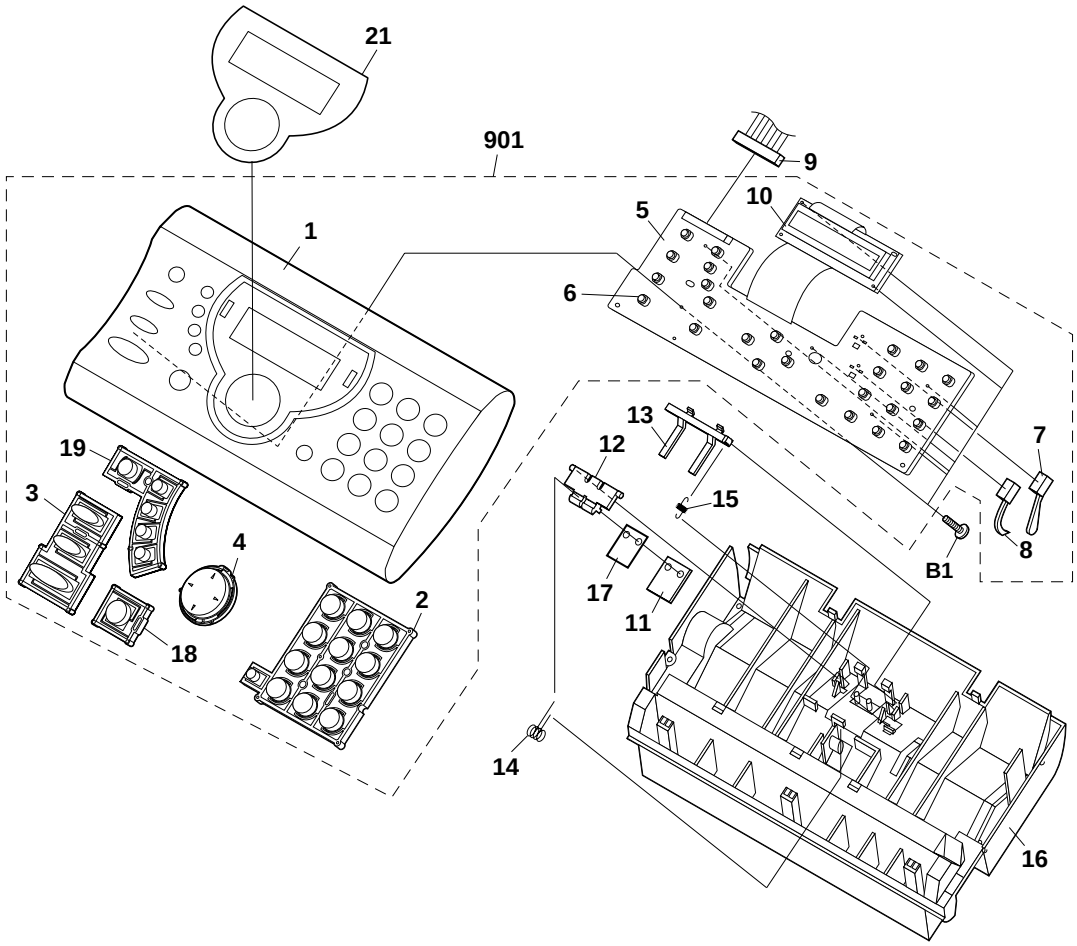
NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[1] Cabinet,etc.					
3	CCNWN395BXH01	AP		C	Speaker ass'y
4	CLEVP2358XH01	AD		C	Hook switch lever ass'y
5	CROLR2481XH01	AQ		C	PO roller ass'y
6	DCEKC789SXHZZ		N	E	Control PWB unit(Within ROM)
7	DCEKL339CXH04	BG		E	TEL/LIU PWB unit
8	QPWBF3368XHZ2	AQ		E	Wire holder(PWB only)
16	QCNWN399BXHZZ	AP	N	C	Panel cable
17	LBNDJ2006XHZZ	AA		C	Band(100mm)
22	LBSHP2140XHZA	AC		C	Back bearing,left
23	LBSHP2143XHZZ	AC		C	Back bearing,right
24	LFRM-2225XHVB	AQ	N	C	Scanner frame [P410]
	LFRM-2225XHSI	AN	N	C	Scanner frame [P610]
	LFRM-2225XHVA	AP		C	Scanner frame [P160]
25	MSPRC3295XHZZ	AB		C	CIS spring
26	MSPRD3379XHZZ	AD		C	PO pinch roller spring
27	NGERH2569XHZZ	AC		C	Back gear
28	NGERH2570XHZZ	AD		C	Reduction gear,21/37Z
29	NROLP2332XHZZ	AD		C	PO pinch roller
30	NROLR2482XHZZ	AR		C	Back roller
31	PGIDM2617XHZZ	AD		C	CIS guide,left
32	PGIDM2618XHZZ	AD		C	CIS guide,right
33	QCNWN419BXHZZ	AL		C	CIS cable
34	RUNTZ2124XHZZ	BM		B	CIS unit
35	GCABB2393XHSQ	AZ	N	D	Lower cabinet [P410]
	GCABB2393XHSY	BB	N	D	Lower cabinet [P610]
	GCABB2393XHSD	AZ		D	Lower cabinet [P160]
36	LHLDZ2227XHZZ	AD		C	Ink ribbon spool 1
37	LHLDZ2228XHZZ	AD		C	Ink ribbon spool 2
38	MSPRC3287XHZZ	AB		C	Head spring A
39	MSPRC3288XHZZ	AB		C	Head spring B
40	MSPRC3340XHZA	AD		C	Head spring C
41	PCOVP2130XHZZ	AE		C	Head cover
42	PGIDM2615XHZZ	AD		C	Head guide,left
43	PGIDM2616XHZZ	AD		C	Head guide,right
44	QCNWN486AXHZZ	AM		C	Head cable
45	RHEDZ2065XHZZ	BP		B	Thermal head
46	GCOVA2447XHVB	AL	N	D	Front cover [P410]
	GCOVA2447XHSM	AK	N	C	Front cover [P610]
	GCOVA2447XHVA	AL		D	Front cover [P160]
47	GLEGG2078XHZZ	AD		C	Rubber leg
48	LPLTM3178XHZZ	AF		C	Bottom plate
49	LPLTP3177XHZZ	AD		C	Stopper plate
50	MLEVP2357XHZZ	AD		C	Film sensor lever
51	MLEVP2356XHZA	AD		C	P-IN sensor lever,lower
52	MSPRD3286XHZA	AB		C	Film sensor lever spring
53	MSPRD3285XHZZ	AB		C	P-IN sensor lever spring,lower
54	MSPRD3291XHZZ	AD		C	Speaker hold spring
55	MSPRD3292XHZA	AB		C	Head earth spring
57	PCOVP2131XHVB	AG	N	C	Panel cable cover [P410]
	PCOVP2131XHVF	AC	N	C	Panel cable cover [P610]
	PCOVP2131XHVA	AG		C	Panel cable cover [P160]
58	PCOVP2132XHZZ	AD		C	Control PWB cover
⚠ 59	QACCE2042XHZZ	AL		B	AC cord ass'y
⚠ 61	RDENT2175XHZZ	BH		E	Power supply PWB unit
62	HPNLH2420XHSQ	AP	N	D	Decoration panel [P410]
	HPNLH2420XHZK	AL	N	D	Decoration panel [P610]
	HPNLH2420XHZY		N	D	Decoration panel [P160]
63	PBRS-2055XHZZ	AN		C	Static brush
64	PSHEZ3687XHZZ	AD		C	Earth sheet
65	MSPRD3341XHZZ	AD		C	Up spring
66	MSPRC3346XHZZ	AD		C	Head spring D
67	MSPRC3357XHZZ	AD		C	PO roller spring
68	TLABH498FXHZZ	AH		D	Imaging film set label
70	PSHEZ3410XHZZ	AB		C	Jack sheet
B1	XEBSD30P10000	AA		C	Screw(3x10)
B2	XEBSD30P12000	AA		C	Screw(3x12)
B3	LX-BZ2282XHZZ	AB		C	Screw
B4	XEPSD30P08000	AA		C	Screw(3x8)
W1	XWHSN40-08100	AA		C	Washer
W2	LX-WZ2290XHZZ	AE		C	Washer

[2] Top cover/Sub frame



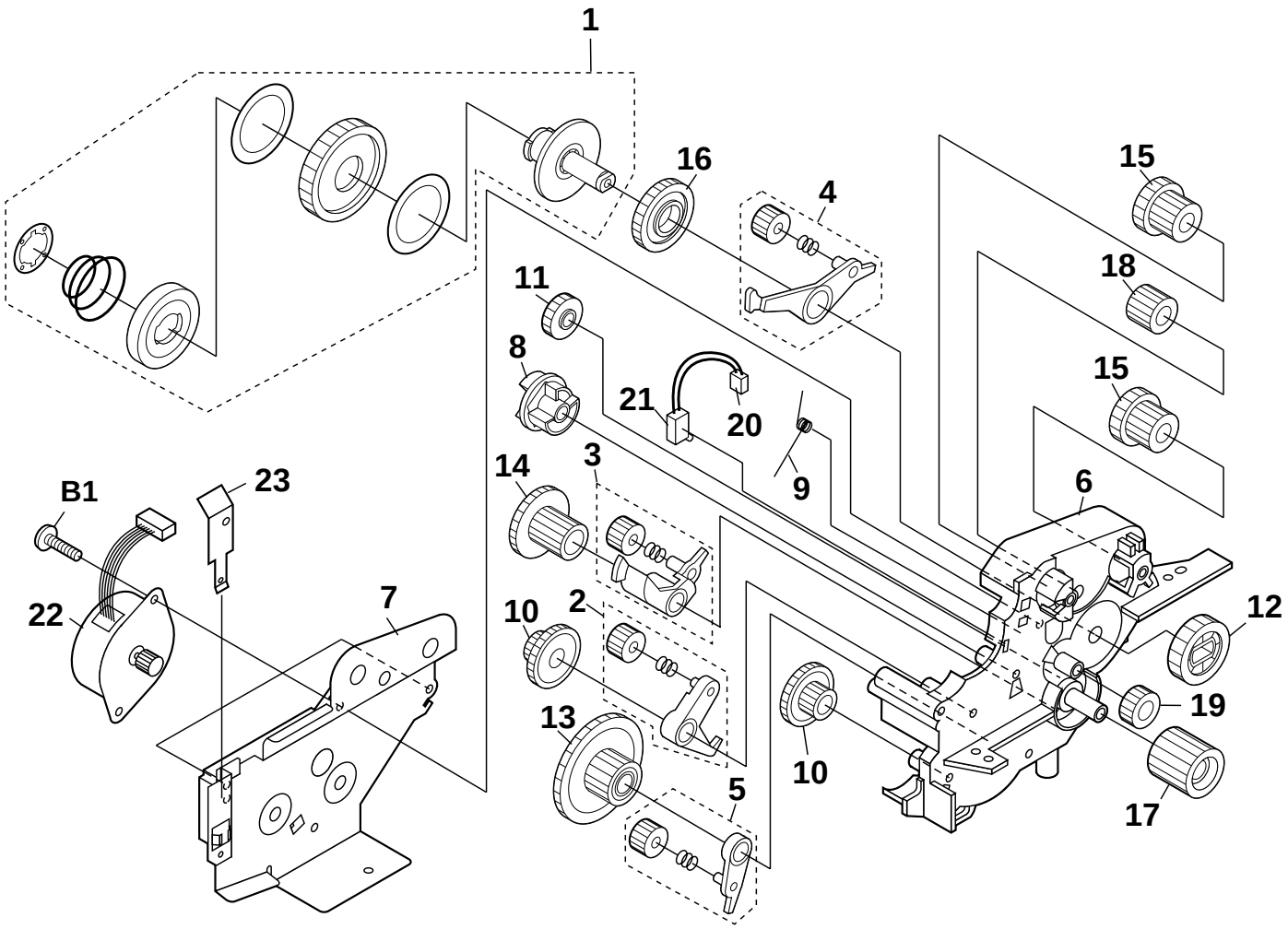
NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
[2] Top cover/Sub frame						
1	GCOVA2448XHVB	AV	N	C	Top cover	[P410]
	GCOVA2448XHRI	AU	N	C	Top cover	[P610]
	GCOVA2448XHVA	AX		C	Top cover	[P160]
2	MSPRC3301XHZZ	AB		C	Hopper spring	
3	NGERP2318XHZZ	AD		C	Pinion gear	
4	PGIDM2619XHVC	AG	N	C	Hopper guide,left	[P410]
	PGIDM2619XHSJ	AF	N	C	Hopper guide,left	[P610]
	PGIDM2619XHVA	AG		C	Hopper guide,left	[P160]
5	PGIDM2620XHVC	AG	N	C	Hopper guide,right	[P410]
	PGIDM2620XHSJ	AF	N	C	Hopper guide,right	[P610]
	PGIDM2620XHVA	AG		C	Hopper guide,right	[P160]
6	LFRM-2227XHZZ	AQ		C	Sub frame	
7	LFRM-2232XHZZ	AT		C	Sub frame plate	
8	MLEVP2363XHZZ	AD		C	P-IN sensor lever,upper	
9	MSPRC3305XHZZ	AB		C	Release lever spring	
10	MSPRD3302XHZZ	AB		C	P-IN sensor lever spring,upper	
11	NGERH2580XHZZ	AC		C	Reduction gear,15/22Z	
12	NGERH2581XHZZ	AC		C	Idler gear,25Z	
13	NROLR2483XHZZ	AL		C	Paper feed roller	
14	NROLR2504XHZZ	AL		C	PU roller	
15	NSFTP2357XHZZ	AG		C	Paper feed roller shaft	
16	NSFTP2374XHZZ	AG		C	PU roller shaft	
17	PGIDM2621XHSF	AL		C	Release lever	[P410]
	PGIDM2621XHSD	AT	N	C	Release lever	[P610]
	PGIDM2621XHSA	AF		C	Release lever	[P160]
18	LHLDZ2224XHZZ	AL		C	RP feed plate holder	
19	LPLTG3181XHZZ	AD		C	RP separate rubber	
20	LPLTP3179XHZZ	AD		C	RP separate base	
21	LPLTP3180XHZZ	AH		C	RP separate plate	
22	LPLTP3182XHZZ	AH		C	RP feed plate	
23	MSPRC3299XHZZ	AB		C	RP separate spring	
24	MSPRC3300XHZZ	AB		C	RP feed spring	
25	LBSHP2148XHZA	AE		C	Platen bearing,left	
26	LBSHP2149XHZA	AE		C	Platen bearing,right	
27	NGERH2579XHZZ	AD		C	Platen gear	
28	NROLR2485XHZZ	AQ		C	Platen roller	
29	LBNDJ2006XHZZ	AA		C	Band	
30	MSPRC3335XHZZ	AD		C	Paper feed roller spring	
31	TLABH347GXHZZ		N	D	Imaging film set label	[P410]
	TLABH346GXHZZ	AL		D	Imaging film set label	[P610/P160]
32	TLABH468DXHZZ	AG	N	D	Maximum 10 label	[P610]
B1	LX-BZ2234XHZZ	AD		C	Screw	
B2	XEBSD30P10000	AA		C	Screw(3x10)	
B3	LX-BZ2222XHZZ	AC		C	Screw	

[3] Upper cabinet/Document guide upper



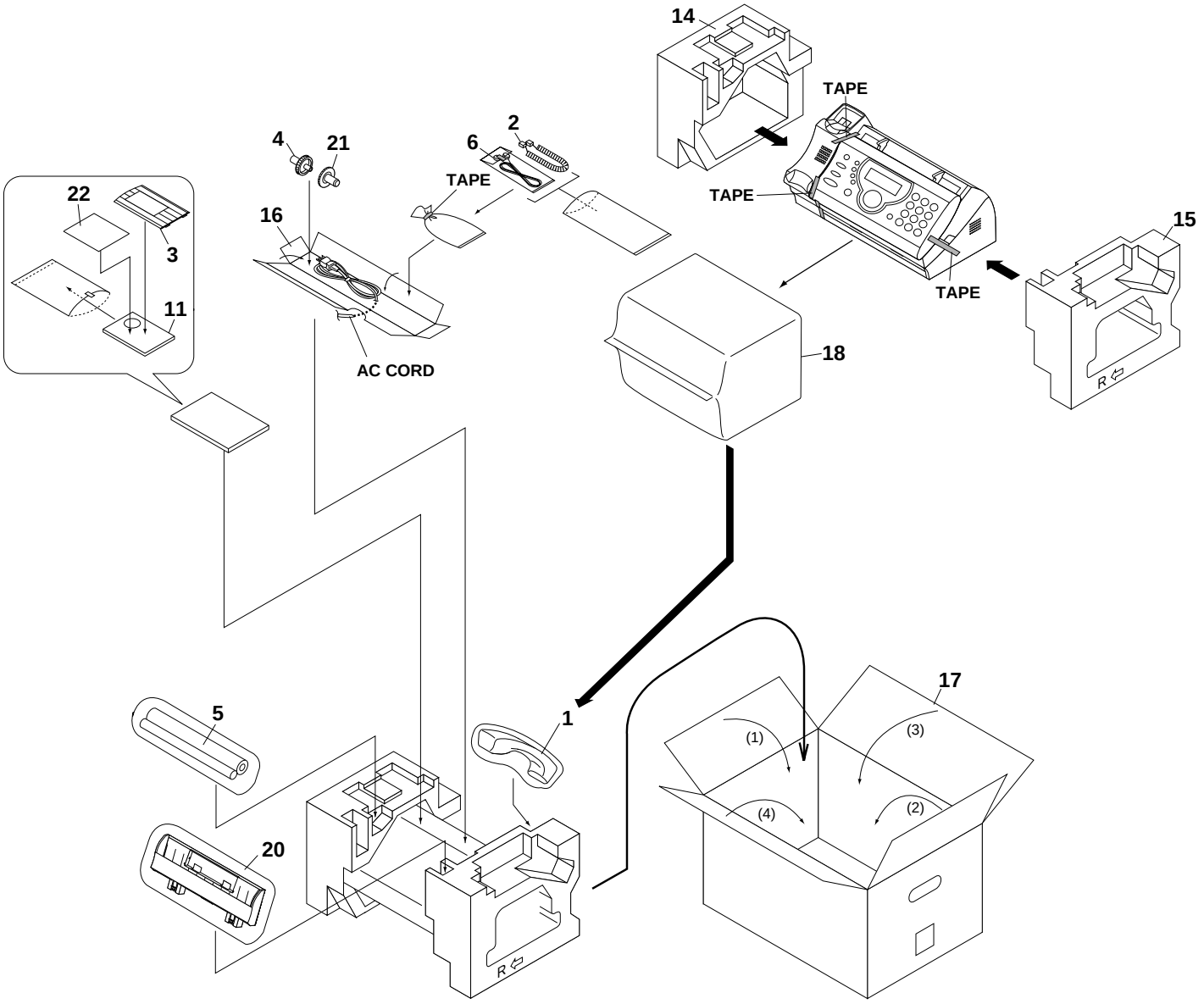
NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
[3] Upper cabinet/Document guide upper						
1	GCASP2173XHZK	BB	N	D	Panel case	[P410]
	GCASP2173XHZL		N	D	Panel case	[P610]
	GCASP2173XHSV	BA	N	D	Panel case	[P160]
2	JBTN-2357XHSE	AM	N	C	12 key	[P410]
	JBTN-2357XHSB	AK		C	12 key	[P610/P160]
3	JBTN-2359XHSG	AQ	N	C	Start key	[P410]
	JBTN-2359XHSD	AQ		C	Start key	[P610/P160]
4	JBTN-2358XHSD	AP	N	C	Function key	[P410]
	JBTN-2358XHSC	AP	N	C	Function key	[P610/P160]
5	DCEKP478CXH02	BG		E	Operation panel PWB unit	
6	QSW-Q2331XHZZ	AE		C	Tact switch	[SW]
7	QSW-M2246AXZZ	AH		C	FRSNS sensor	
8	QSW-M2294XHZZ	AE		C	ORGSNS sensor	
9	QCNWN399BXHZZ	AP	N	C	Panel cable	
10	RUNTZ2127XH01	BC		E	LCD unit	
11	LPLTG2911XHZZ	AE		C	Separate rubber	
12	LPLTP3175XHZZ	AD		C	Separate plate	
13	LPLTP3176XHZZ	AD		C	Feed plate	
14	MSPRD3293XHZZ	AB		C	Separate spring	
15	MSPRT3294XHZZ	AB		C	Feed spring	
16	PGIDM2614XHSF	AQ		C	Document guide upper	[P410]
	PGIDM2614XHSD	AQ		C	Document guide upper	[P610]
	PGIDM2614XHSA	AL		C	Document guide upper	[P160]
17	PSHEP3660XHZZ	AE		C	Separate rubber sheet	
18	JBTN-2360XHSE	AL	N	C	Speed key	[P410]
	JBTN-2360XHSC	AH		C	Speed key	[P610/P160]
19	JBTN-2361XHSE	AM	N	C	Function 2 key	[P410]
	JBTN-2361XHSD	AM		C	Function 2 key	[P610/P160]
21	HPNLH2420XHSQ	AP	N	D	Decoration panel	[P410]
	HPNLH2420XHZK	AL	N	D	Decoration panel unit	[P610]
	HPNLH2420XHZY		N	D	Decoration panel	[P160]
B1	XEBSD20P06000	AA		C	Screw(2x6)	
	(Unit)					
901	DCEKP480CXH36		N	E	Operation panel unit	[P410]
	DCEKP480CXH34		N	E	Operation panel unit	[P610]
	DCEKP480CXH35		N	E	Operation panel unit	[P160]

[4] Drive unit



NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[4] Drive unit					
1	CGERH2314XH05	AS		C	Slip gear ass'y
2	CLEVP2359XH01	AD		C	Planet gear lever ass'y A
3	CLEVP2360XH01	AD		C	Planet gear lever ass'y B
4	CLEVP2361XH01	AD		C	Planet gear lever ass'y C
5	CLEVP2362XH01	AD		C	Planet gear lever ass'y D
6	LFRM-2226XHZZ	AQ		C	Drive unit frame
7	LPLTM3190XHZZ	AG		C	Motor plate
8	MCAMP2028XHZZ	AE		C	Cam
9	MSPRD3298XHZZ	AE		C	Cam hold spring
10	NGERH2380XHZZ	AC		C	Reduction gear,17/36Z
11	NGERH2409XHZZ	AB		C	Idler gear,23Z
12	NGERH2571XHZZ	AD		C	Slip gear
13	NGERH2572XHZZ	AD		C	Reduction gear,25/63Z
14	NGERH2573XHZZ	AD		C	Reduction gear,20/40Z
15	NGERH2574XHZZ	AD		C	Reduction gear,15/30Z
16	NGERH2575XHZZ	AD		C	Idler gear,40Z
17	NGERH2576XHZZ	AD		C	Idler gear,21Z
18	NGERH2577XHZZ	AD		C	Idler gear,20Z
19	NGERH2582XHZZ	AC		C	Idler gear,15Z
20	QCNWN483AXHZZ	AD		C	Cam switch cable
21	QSW-F2224SCZZ	AE		C	Cam switch
22	RMOTS2175XHZZ	AX		B	Motor
23	MSPRP3297XHZZ	AD		C	Earth spring
B1	XEBSD30P08000	AA		C	Screw(3x8)

[5] Packing material & Accessories



NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
[5] Packing material & Accessories						
1	DUNTK497CXHAG	AY	N	E	Handset	[P410]
	DUNTK497CXHBW		N	E	Handset	[P610]
	DUNTK497CXHFW	AY		E	Handset	[P160]
2	QCNWG209BXHAG	AP		C	Handset cord	[P410]
	QCNWG209BXHBW	AN		C	Handset cord	[P610]
	QCNWG209BXHOW	AH		C	Handset cord	[P160]
3	CPLTP3222XHR2	AQ		C	Paper tray extension	
4	NGERH2568XHZZ	AB		C	Imaging film gear	
5	PRBNN2032SC50	AY		S	Imaging film(Initial starter film 50m)	
6	QCNWG208BXHZZ	AF		C	Telephone line cord	
11	TINST4395XHTZ		N	D	Operation manual	
14	SPAKA465CXHZZ	AF		D	Packing add.,left	
15	SPAKA466CXHZZ	AF		D	Packing add.,right	
16	SPAKA467CXHZZ	AD		D	Packing add.,accessories	
17	CPAKC346FXH01		N	D	Packing case with label	[P410]
	CPAKC347FXH01		N	D	Packing case with label	[P610]
	CPAKC345FXH01		N	D	Packing case with label	[P160]
18	SPAKP329DXHZZ	AF		D	Vinyl cover	
20	CPLTP3183XHRG	AV		C	Paper tray ass'y	
21	CGERH2566XH01	AG		C	Imaging film gear ass'y	
22	TGANT2206XHZZ	AN		D	Warranty card	

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
[6] Control PWB unit						
1	UBATL2049SCZZ	AF		B	Battery(CR2032T23)	[BAT1]
2	VCEAGA0JW227M	AD		C	Capacitor(6.3WV 220μF)	[C1]
3	VCEAGA1EW476M	AA		C	Capacitor(25WV 47μF)	[C2]
4	VCEAGA0JW227M	AD		C	Capacitor(6.3WV 220μF)	[C3]
5	VCEAGA1HW106M	AA		C	Capacitor(50WV 10μF)	[C4]
6	VCEAGA1HW106M	AA		C	Capacitor(50WV 10μF)	[C5]
7	VCEAGA1EW476M	AA		C	Capacitor(25WV 47μF)	[C6]
8	VCEAGA1HW106M	AA		C	Capacitor(50WV 10μF)	[C8]
9	VCEAGA1HW106M	AA		C	Capacitor(50WV 10μF)	[C9]
10	VCEAGA1HW226M	AB		C	Capacitor(50WV 22μF)	[C10]
11	VCKYCY1HB102K	AA		C	Capacitor(50WV 1000PF)	[C104]
12	VCKYCY1HB102K	AA		C	Capacitor(50WV 1000PF)	[C105]
13	VCCCCY1HH101J	AA		C	Capacitor(50WV 100PF)	[C107]
14	VCCCCY1HH101J	AA		C	Capacitor(50WV 100PF)	[C108]
15	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C109]
16	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C110]
17	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C111]
18	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C112]
19	VCCCCY1HH101J	AA		C	Capacitor(50WV 100PF)	[C113]
20	VCCCCY1HH101J	AA		C	Capacitor(50WV 100PF)	[C114]
21	VCCCCY1HH101J	AA		C	Capacitor(50WV 100PF)	[C115]
22	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C116]
23	VCCCCY1HH101J	AA		C	Capacitor(50WV 100PF)	[C117]
24	VCCCCY1HH101J	AA		C	Capacitor(50WV 100PF)	[C118]
25	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C119]
26	VCKYCY1HB103K	AA		C	Capacitor(50WV 0.01μF)	[C120]
27	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C121]
28	VCCCCY1HH330J	AA		C	Capacitor(50WV 33PF)	[C122]
29	VCCCCY1HH150J	AB		C	Capacitor(50WV 15PF)	[C123]
30	VCKYCY1HB103K	AA		C	Capacitor(50WV 0.01μF)	[C126]
31	VCKYCY1HB472K	AA		C	Capacitor(50WV 4700PF)	[C127]
32	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C128]
33	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C129]
34	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C130]
35	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1μF)	[C131]
36	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1μF)	[C132]
37	VCCCCY1HH221J	AA		C	Capacitor(50WV 220PF)	[C133]
38	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1μF)	[C134]
39	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1μF)	[C135]
40	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C136]
41	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C137]
42	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1μF)	[C139]
43	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C140]
44	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C141]
45	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1μF)	[C142]
46	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1μF)	[C143]
47	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1μF)	[C144]
48	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1μF)	[C145]
49	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1μF)	[C146]
50	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1μF)	[C147]
51	VCCCCY1HH220J	AA		C	Capacitor(50WV 22PF)	[C148]
52	VCCCCY1HH220J	AA		C	Capacitor(50WV 22PF)	[C149]
53	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C154]
54	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C155]
55	VCKYCY1AB105K	AB		C	Capacitor(10WV 1μF)	[C157]
56	VCKYCY1AB105K	AB		C	Capacitor(10WV 1μF)	[C159]
57	VCKYCY1HB102K	AA		C	Capacitor(50WV 1000PF)	[C160]
58	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1μF)	[C161]
59	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1μF)	[C162]
60	VCCCCY1HH101J	AA		C	Capacitor(50WV 100PF)	[C163]
61	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C167]
62	VCCCCY1HH101J	AA		C	Capacitor(50WV 100PF)	[C168]
63	VCCCCY1HH101J	AA		C	Capacitor(50WV 100PF)	[C169]
64	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C171]
65	VCKYCY1CB104K	AB		C	Capacitor(16WV 0.1μF)	[C172]
66	VCKYCY1AB105K	AB		C	Capacitor(10WV 1μF)	[C175]
67	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[C176]
68	VCKYCY1CB104K	AB		C	Capacitor(16WV 0.1μF)	[C177]
69	VCKYCY1CB104K	AB		C	Capacitor(16WV 0.1μF)	[C178]
70	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[C179]
71	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C182]
72	VCCCCY1HH101J	AA		C	Capacitor(50WV 100PF)	[C183]
73	VCCCCY1HH101J	AA		C	Capacitor(50WV 100PF)	[C184]
74	VCCCCY1HH101J	AA		C	Capacitor(50WV 100PF)	[C185]
75	VCCCCY1HH101J	AA		C	Capacitor(50WV 100PF)	[C186]
76	VCCCCY1HH101J	AA		C	Capacitor(50WV 100PF)	[C187]
77	VCKYCY1HB102K	AA		C	Capacitor(50WV 1000PF)	[C188]
78	VCKYCY1HB102K	AA		C	Capacitor(50WV 1000PF)	[C189]
79	VCCCCY1HH101J	AA		C	Capacitor(50WV 100PF)	[C193]
80	VCKYCY1HB102K	AA		C	Capacitor(50WV 1000PF)	[C194]

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
[6] Control PWB unit						
81	VCKYCY1HB471K	AB		C	Capacitor(50WV 470PF)	[C199]
82	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C200]
83	QCNCM2666XH0G	AE		C	Connector(7pin)	[CNCIS]
84	QCNCM7014SC0B	AD		C	Connector(2pin)	[CNCSW]
85	QCNCM2508SC1D	AF		C	Connector(14pin)	[CNLIUA]
86	QCNCM7014SC0F	AB		C	Connector(6pin)	[CNMT]
87	QCNCM2666XH1F	AF		C	Connector(16pin)	[CNPN]
88	QCNCM7014SC0C	AA		C	Connector(3pin)	[CNPRG]
89	QCNCM2638SC0F	AE		C	Connector(6pin)	[CNPW]
90	QCNCM2666XH0C	AD		C	Connector(3pin)	[CNSP]
91	QCNCM7014SC1E	AC		C	Connector(15pin)	[CNTH]
92	VHDHRW0202B-1	AD		B	Diode(HRW0202B)	[D100]
93	VHD1SS355//-1	AB		B	Diode(1SS355)	[D101]
94	VHD1SS355//-1	AB		B	Diode(1SS355)	[D102]
95	QFS-L1037YCZZ	AD		B	IC protector(KAB3202)	[FU100]
96	VHIF002/TB97A	BD	N	B	IC,FLASH ROM(2MB)(Ver.:TB97A)(DROM-789SXH01)	[IC1]
97	RH-IX2168SCZZ	BB		B	IC(MSM51V4800E)	[IC2]
98	VHISCE209//-1	BH		B	IC(SCE209)	[IC3]
99	VHINJM2113M-1	AG		B	IC(NJM2113M)	[IC4]
100	RH-IX2356XHZZ	AL		B	IC(ULN2001A)	[IC5]
101	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[L100]
102	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[L102]
103	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[L103]
104	VRS-CY1JB150J	AA		C	Resistor(1/16W 15Ω ±5%)	[L104]
105	VS2SA1530AS-1	AC		B	Transistor(2SA1530AS)	[Q100]
106	VSRT1N141C/-1	AB		B	Transistor(RT1N141C)	[Q101]
107	VSRT1N141C/-1	AB		B	Transistor(RT1N141C)	[Q102]
108	VSRT1N141C/-1	AB		B	Transistor(RT1N141C)	[Q104]
109	VSRT1N436C/-1	AD		B	Transistor(RT1N436C)	[Q106]
110	VSSI4431ADY-1	AF		B	FET(SI4431ADY)	[Q107]
111	VSRT1P141C+-1	AB		B	Transistor(RT1P141C)	[Q108]
112	VSRT1N141C/-1	AB		B	Transistor(RT1N141C)	[Q109]
113	VSRT1N141C/-1	AB		B	Transistor(RT1N141C)	[Q110]
114	VRS-CY1JB562J	AA		C	Resistor(1/16W 5.6KΩ ±5%)	[R100]
115	VRS-CY1JB271J	AA		C	Resistor(1/16W 270Ω ±5%)	[R101]
116	VRS-CY1JB271J	AA		C	Resistor(1/16W 270Ω ±5%)	[R102]
117	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[R103]
118	VRS-CY1JB471J	AA		C	Resistor(1/16W 470Ω ±5%)	[R104]
119	VRS-CY1JB471J	AA		C	Resistor(1/16W 470Ω ±5%)	[R105]
120	VRS-CY1JB471J	AA		C	Resistor(1/16W 470Ω ±5%)	[R106]
121	VRS-CY1JB103J	AA		C	Resistor(1/16W 10KΩ ±5%)	[R107]
122	VRS-CY1JB271J	AA		C	Resistor(1/16W 270Ω ±5%)	[R111]
123	VRS-CY1JB102J	AA		C	Resistor(1/16W 1KΩ ±5%)	[R112]
124	VRS-CY1JB512J	AA		C	Resistor(1/16W 5.1KΩ ±5%)	[R113]
125	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[R114]
126	VRS-CY1JB203J	AA		C	Resistor(1/16W 20KΩ ±5%)	[R116]
127	VRS-CY1JB102J	AA		C	Resistor(1/16W 1KΩ ±5%)	[R117]
128	VRS-CY1JB124J	AA		C	Resistor(1/16W 120KΩ ±5%)	[R118]
129	VRS-CY1JB203J	AA		C	Resistor(1/10W 20KΩ ±5%)	[R119]
130	VRS-CY1JB224J	AA		C	Resistor(1/16W 220KΩ ±5%)	[R120]
131	VRS-CY1JB103J	AA		C	Resistor(1/16W 10KΩ ±5%)	[R121]
132	VRS-CY1JB151J	AA		C	Resistor(1/16W 150Ω ±5%)	[R124]
133	VRS-CY1JB103J	AA		C	Resistor(1/16W 10KΩ ±5%)	[R125]
134	VRS-CY1JB471J	AA		C	Resistor(1/16W 470Ω ±5%)	[R126]
135	VRS-CY1JB105J	AA		C	Resistor(1/16W 1MΩ ±5%)	[R127]
136	VRS-CY1JB102J	AA		C	Resistor(1/16W 1KΩ ±5%)	[R128]
137	VRS-CY1JB102J	AA		C	Resistor(1/16W 1KΩ ±5%)	[R129]
138	VRS-CY1JB301J	AA		C	Resistor(1/16W 300Ω ±5%)	[R130]
139	VRS-CY1JB102J	AA		C	Resistor(1/16W 1KΩ ±5%)	[R131]
140	VRS-CY1JB102J	AA		C	Resistor(1/16W 1KΩ ±5%)	[R132]
141	VRS-CY1JB104J	AA		C	Resistor(1/16W 100KΩ ±5%)	[R133]
142	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[R134]
143	VRS-CY1JB103J	AA		C	Resistor(1/16W 10KΩ ±5%)	[R135]
144	VRS-CY1JB474J	AA		C	Resistor(1/16W 470KΩ ±5%)	[R136]
145	VRS-CY1JB203J	AA		C	Resistor(1/16W 20KΩ ±5%)	[R137]
146	VRS-CY1JB224J	AA		C	Resistor(1/16W 220KΩ ±5%)	[R139]
147	VRS-CY1JB513J	AA		C	Resistor(1/16W 51KΩ ±5%)	[R140]
148	VRS-CY1JB271J	AA		C	Resistor(1/16W 270Ω ±5%)	[R141]
149	VRS-CY1JB106J	AA		C	Resistor(1/16W 10MΩ ±5%)	[R142]
150	VRS-CY1JB103J	AA		C	Resistor(1/16W 10KΩ ±5%)	[R143]
151	VRS-CY1JB103J	AA		C	Resistor(1/16W 10KΩ ±5%)	[R144]
152	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[R145]
153	VRS-CY1JB102J	AA		C	Resistor(1/16W 1KΩ ±5%)	[R146]
154	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[R147]
155	VRS-CY1JB203J	AA		C	Resistor(1/16W 20KΩ ±5%)	[R148]
156	VRS-CY1JB271J	AA		C	Resistor(1/16W 270Ω ±5%)	[R149]
157	VRS-CY1JB223J	AA		C	Resistor(1/16W 22KΩ ±5%)	[R151]
158	VRS-CY1JB222J	AA		C	Resistor(1/16W 2.2KΩ ±5%)	[R152]
159	VRS-CY1JB392J	AA		C	Resistor(1/16W 3.9KΩ ±5%)	[R154]
160	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[R158]

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
[6] Control PWB unit						
161	VRS-CY1JB271J	AA		C	Resistor(1/16W 270Ω ±5%)	[R160]
162	VRS-CY1JB271J	AA		C	Resistor(1/16W 270Ω ±5%)	[R161]
163	VRS-CY1JB271J	AA		C	Resistor(1/16W 270Ω ±5%)	[R165]
164	VRS-CY1JB271J	AA		C	Resistor(1/16W 270Ω ±5%)	[R166]
165	VRS-CY1JB393J	AA		C	Resistor(1/16W 39KΩ ±5%)	[R167]
166	VRS-CY1JB124J	AA		C	Resistor(1/16W 120KΩ ±5%)	[R168]
167	VRS-CY1JB102J	AA		C	Resistor(1/16W 1KΩ ±5%)	[R169]
168	VRS-CY1JB271J	AA		C	Resistor(1/16W 270Ω ±5%)	[R170]
169	VRS-CY1JB151J	AA		C	Resistor(1/16W 150Ω ±5%)	[R171]
170	VRS-CY1JB151J	AA		C	Resistor(1/16W 150Ω ±5%)	[R172]
171	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[R173]
172	VRS-CY1JB101J	AA		C	Resistor(1/16W 100Ω ±5%)	[R174]
173	VRS-CY1JB271J	AA		C	Resistor(1/16W 270Ω ±5%)	[R175]
174	VRS-CY1JB104J	AA		C	Resistor(1/16W 100KΩ ±5%)	[R178]
175	RR-TZ3018SCZZ	AC		B	Block resistor(470Ωx4)	[RA1]
176	RR-TZ3018SCZZ	AC		B	Block resistor(470Ωx4)	[RA2]
177	RR-TZ3018SCZZ	AC		B	Block resistor(470Ωx4)	[RA3]
178	RR-TZ3017SCZZ	AC		B	Block resistor(270Ωx4)	[RA4]
179	RH-IX2357XHZZ	AH		B	IC(S-814A33AUA)	[REG1]
180	RCRSP2176SCZZ	AG		B	Crystal(32.256MHz)	[X1]
181	RCRSB0297AFZZ	AD		B	Crystal(32.768kHz)	[X2]
182	VHE1N4748A/-1	AC		B	Diode(1N4748A)	[ZD1]
183	VHE02CZ180Y-1	AC		B	(02CZ180Y)	[ZD100]
	(Unit)					
901	DCEKC789SXHZZ		N	E	Control PWB unit(Within ROM)	
[7] TEL/LIU PWB unit						
⚠ 1	VHVRA501PC6-1	AG		B	Varistor(RA501P-C6)	[AR1]
⚠ 2	VHVRA501PC6-1	AG		B	Varistor(RA501P-C6)	[AR2]
3	VCEAGA1HW475M	AA		C	Capacitor(50WV 4.7μF)	[C1]
4	VCEAGA1HW226M	AB		C	Capacitor(50WV 22μF)	[C3]
5	VCEAGA1HW106M	AA		C	Capacitor(50WV 10μF)	[C4]
6	VCEAGA1HW226M	AB		C	Capacitor(50WV 22μF)	[C5]
7	VCEAGA1HW107M	AA		C	Capacitor(50WV 100μF)	[C8]
8	RC-FZ3024SCZZ	AG		C	Capacitor(250WV 0.82μF)	[C10]
9	VCEAGA1HW226M	AB		C	Capacitor(50WV 22μF)	[C12]
10	VCEAGA1HW106M	AA		C	Capacitor(50WV 10μF)	[C13]
11	VCEAGA1EW107M	AB		C	Capacitor(25WV 100μF)	[C14]
12	VCKYPA1HB103K	AA		C	Capacitor(50WV 0.01μF)	[C20]
13	VCKYCY1HB102K	AA		C	Capacitor(50WV 1000PF)	[C102]
14	VCCCCY1HH221J	AA		C	Capacitor(50WV 220PF)	[C103]
15	VCKYTV1EB104K	AA		C	Capacitor(25WV 0.1μF)	[C104]
16	VCKYCY1HB102K	AA		C	Capacitor(50WV 1000PF)	[C107]
17	VCKYCY1HB102K	AA		C	Capacitor(50WV 1000PF)	[C109]
18	VCKYTV1HB223K	AA		C	Capacitor(50WV 0.022μF)	[C111]
19	VCKYCY1HB222K	AA		C	Capacitor(50WV 2200PF)	[C112]
20	VCKYCY1HB102K	AA		C	Capacitor(50WV 1000PF)	[C117]
21	VCKYTV1HB223K	AA		C	Capacitor(50WV 0.022μF)	[C123]
22	VCKYCY1HB102K	AA		C	Capacitor(50WV 1000PF)	[C124]
23	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[C127]
24	VCKYCY1HB821K	AA		C	Capacitor(50WV 820PF)	[C130]
25	VCKYCY1HB821K	AA		C	Capacitor(50WV 820PF)	[C137]
26	VCCCCY1HH330J	AA		C	Capacitor(50WV 33PF)	[C139]
27	VCKYCY1CB104K	AB		C	Capacitor(16WV 0.1μF)	[C142]
28	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[C143]
29	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[C144]
30	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[C145]
⚠ 31	RRLYD3436XHZZ	AP		B	Relay(A5X-24E-908)	[CML]
32	QJAKZ2079XH0D	AD		C	Jack	[CNHJ]
33	QCNCW715PAFZZ	AG		C	Connector(14pin)	[CNLIUA]
34	QJAKZ2073SCFB	AD		C	Jack	[CNLNJ]
35	QJAKZ2073SCFB	AD		C	Jack	[CNTLJ]
36	VHDDSS133//-1	AA		B	Diode(1SS133)	[D3]
37	VHDDSS133//-1	AA		B	Diode(1SS133)	[D4]
38	VHINJM2904M-2	AG		B	IC(NJM2904M)	[IC101]
39	VHINJM2904M-2	AG		B	IC(NJM2904M)	[IC102]
40	RFILN2027XHZZ	AC		C	Coil(R-5C)	[L6]
41	RFILN2027XHZZ	AC		C	Coil(R-5C)	[L8]
⚠ 42	VHPTLP621-1BL	AD		B	Photo coupler(TLP621)	[PC1]
43	VHPSG206S//-1	AG		B	Photo transistor(SG206S)	[PH1]
44	VHPSG206S//-1	AG		B	Photo transistor(SG206S)	[PH2]
45	VSKRA102M//-3	AD		B	Transistor(KRA102M)	[Q6]
46	VSKTC3875GR-1	AB		B	Transistor(KTC3875GR)	[Q100]
47	VSRT1N436C/-1	AD		B	Transistor(RT1N436C)	[Q101]
48	VSRT1N436C/-1	AD		B	Transistor(RT1N436C)	[Q102]
49	VSRT1N436C/-1	AD		B	Transistor(RT1N436C)	[Q103]
50	VRD-HT2EY101J	AA		C	Resistor(1/4W 100Ω ±5%)	[R2]
51	VRS-RE3AA122J	AC		C	Resistor(1W 1.2KΩ ±5%)	[R3]
52	VRS-HT3AA223J	AA		C	Resistor(1W 22KΩ ±5%)	[R4]
53	VRS-CY1JB332J	AA		C	Resistor(1/16W 3.3KΩ ±5%)	[R100]

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
[7] TEL/LIU PWB unit						
54	VRS-CY1JB102J	AA		C	Resistor(1/16W 1KΩ ±5%)	[R101]
55	VRS-CY1JB273J	AA		C	Resistor(1/16W 27KΩ ±5%)	[R102]
56	VCKYCY1AB105K	AB		C	Capacitor(10WV 1.0μF)	[R103]
57	VRS-CY1JB332J	AA		C	Resistor(1/16W 3.3KΩ ±5%)	[R104]
58	VRS-TS2AD151J	AA		C	Resistor(1/10W 150Ω ±5%)	[R105]
59	VRS-CY1JB102J	AA		C	Resistor(1/16W 1KΩ ±5%)	[R107]
60	VRS-CY1JB332J	AA		C	Resistor(1/16W 3.3KΩ ±5%)	[R108]
61	VRS-CY1JB822J	AA		C	Resistor(1/16W 8.2KΩ ±5%)	[R109]
62	VRS-CY1JB683J	AA		C	Resistor(1/16W 68KΩ ±5%)	[R110]
63	VRS-CY1JB124J	AA		C	Resistor(1/16W 120KΩ ±5%)	[R111]
64	VRS-CY1JB152J	AA		C	Resistor(1/16W 1.5KΩ ±5%)	[R112]
65	VRS-CY1JB332J	AA		C	Resistor(1/16W 3.3KΩ ±5%)	[R113]
66	VRS-TS2AD433J	AA		C	Resistor(1/10W 43KΩ ±5%)	[R117]
67	VRS-CY1JB101J	AA		C	Resistor(1/16W 100Ω ±5%)	[R118]
68	VRS-CY1JB332J	AA		C	Resistor(1/16W 3.3KΩ ±5%)	[R120]
69	VRS-CY1JB242J	AA		C	Resistor(1/16W 2.4KΩ ±5%)	[R121]
70	VRS-CY1JB823J	AD		C	Resistor(1/16W 82KΩ ±5%)	[R122]
71	VRS-CY1JB621J	AA		C	Resistor(1/16W 620Ω ±5%)	[R124]
72	VRS-CY1JB103J	AA		C	Resistor(1/16W 10KΩ ±5%)	[R125]
73	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[R127]
74	VRS-CY1JB513J	AA		C	Resistor(1/16W 51KΩ ±5%)	[R132]
75	VRS-CY1JB203J	AA		C	Resistor(1/16W 20KΩ ±5%)	[R133]
76	VRS-CY1JB203J	AA		C	Resistor(1/16W 20KΩ ±5%)	[R134]
77	VRS-CY1JB153J	AA		C	Resistor(1/16W 15KΩ ±5%)	[R135]
78	VRS-CY1JB203J	AA		C	Resistor(1/16W 20KΩ ±5%)	[R136]
79	VRS-CY1JB332J	AA		C	Resistor(1/16W 3.3KΩ ±5%)	[R137]
80	VRS-CY1JB682J	AA		C	Resistor(1/16W 6.8KΩ ±5%)	[R142]
81	VHINJM78L05A1	AD		B	IC(NJM78L05A)	[REG1]
82	QSW-Z2317XHZZ	AF		C	Hook switch	[SW1]
⚠ 83	RTRNI2164XHZZ	AG		B	Transformer(I2164)	[T1]
⚠ 84	VHVDSS301L/-U	AF		B	Varistor(DSS-301L)	[VA1]
85	VHEHZ2C1///-1	AA		B	Zener diode(HZ2C1)	[ZD2]
86	VHEHZ2C1///-1	AA		B	Zener diode(HZ2C1)	[ZD3]
87	VHEHZ27-1//-1	AB		B	Zener diode(HZ27-1)	[ZD4]
88	VHEMTZJ100B-1	AC		B	Zener diode(MTZJ10B)	[ZD5]
	(Unit)					
901	DCEKL339CXH04	BG		E	TEL/LIU PWB unit	
[8] Power supply PWB unit						
1	0KY0L551A0010	AE		C	Ferrite beads(BL02RN1)	[BEA1]
2	0KY0L551A0010	AE		C	Ferrite beads(BL02RN1)	[BEA101]
3	0KY0C245Q1040	AM		C	Capacitor(275WV 0.1μF)	[C1]
4	0KYC3108MS560	AV		C	Capacitor(400WV 56μF)	[C5]
5	0KY0C176Q4720	AL		C	Capacitor(4700PF)	[C7]
6	0KY0C1B2S4700	AF		C	Capacitor(2KWV 47PF)	[C8]
7	0KYC1103EC103	AC		C	Capacitor(50WV 0.01μF)	[C9]
8	0KYC1103EC472	AC		C	Capacitor(50WV 4700PF)	[C10]
9	0KY0C194E1010	AC		C	Capacitor(50WV 100PF)	[C11]
10	0KY0C1Q1E1010	AD		C	Capacitor(50WV 100PF)	[C13]
11	0KY0C195E1040	AD		C	Capacitor(50WV 0.1μF)	[C14]
12	0KY0C176Q4720	AL		C	Capacitor(4700PF)	[C15]
13	0KY0C3A0D2210	AM		C	Capacitor(35WV 220μF)	[C101]
14	0KY0C3A0B4710	AM		C	Capacitor(16WV 470μF)	[C102]
15	0KY0C195E1040	AD		C	Capacitor(50WV 0.1μF)	[C110]
16	0KY0C1A9Y1020	AG		C	Capacitor(500WV 1000PF)	[C111]
17	0KY0K251A0020	AK		C	Connector(B2P3-VH)	[CN1]
18	0KYK2101LS006	AK		C	Connector(IMSA-9110S-06)	[CN101]
19	0KY0D466A0600	AE		B	Zener diode(HZS9)	[D5]
20	0KY0D251A0020	AD		B	Diode(1SS133)	[D6]
21	0KY0D251A0020	AD		B	Diode(1SS133)	[D7]
22	0KY0D251A0020	AD		B	Diode(1SS133)	[D9]
23	0KY0D157A0060	AG		B	Diode(ERA15-06)	[D10]
24	0KY0D157A0060	AG		B	Diode(ERA15-06)	[D11]
25	0KY0D157A0060	AG		B	Diode(ERA15-06)	[D12]
26	0KY0D157A0060	AG		B	Diode(ERA15-06)	[D13]
27	0KY0D251A0020	AD		B	Diode(1SS133)	[D14]
28	0KY0D251A0020	AD		B	Diode(1SS133)	[D17]
29	0KY0D251A0020	AD		B	Diode(1SS133)	[D18]
30	0KY0D251A0020	AD		B	Diode(1SS133)	[D20]
31	0KY0D466A0720	AE		B	Zener diode(HZS11)	[D22]
32	0KY0D221B0020	AT		B	Diode(YG911S2)	[D101]
33	0KY0D266A0020	AK		B	Diode(ERA83-006)	[D102]
34	0KY0D461A3200	AL		B	Zener diode(HZ-30CP)	[D104]
35	0KY0D466A0480	AE		B	Zener diode(HZS7)	[D105]
36	0KY0K718A2R50	AM		A	Fuse(T2.5A/250V)	[F1]
37	0KY0K718A2R50	AM		A	Fuse(T2.5A/250V)	[F2]
38	0KY0W000A0050	AC		C	Jumper	[F101]
39	0KY0M850A0010	AE		C	Fuse holder(TP00351)	[FH1]
40	0KY0M850A0010	AE		C	Fuse holder(TP00351)	[FH2]
41	0KY0M850A0010	AE		C	Fuse holder(TP00351)	[FH3]

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
[8] Power supply PWB unit						
42	0KY0M850A0010	AE		C	Fuse holder(TP00351)	[FH4]
43	0KY0L110K2230	AS		C	Inductor(PLA10A)	[L1]
44	0KY0D763A8R00	AN		B	Thermistor(NTH7D8R0)	[NTC1]
45	0KYH7101AS002	AM		B	Photo coupler(SFH615A)	[PC1]
46	0KY0T645A0020	AX		B	FET(2SK2717)	[Q1]
47	0KY0T358A0040	AG		B	Transistor(2SC1741AS)	[Q2]
48	0KY0T358A0040	AG		B	Transistor(2SC1741AS)	[Q21]
49	0KY0T394A0010	AF		B	Transistor(2SC4081)	[Q22]
50	0KY0T394A0010	AF		B	Transistor(2SC4081)	[Q23]
51	0KY0T394A0010	AF		B	Transistor(2SC4081)	[Q101]
52	0KY0R166B4750	AE		C	Resistor(1/2W 4.7MΩ)	[R1]
53	0KY0R353U6840	AD		C	Resistor(1/4W 680KΩ)	[R2]
54	0KY0R353U6840	AD		C	Resistor(1/4W 680KΩ)	[R3]
55	0KY0R3Q1V2230	AB		C	Resistor(1/8W 22KΩ)	[R5]
56	0KY0R153U4710	AC		C	Resistor(1/4W 470Ω)	[R6]
57	0KY0R3Q0V3910	AB		C	Resistor(1/8W 390Ω)	[R7]
58	0KY0R3Q0V3330	AC		C	Resistor(1/8W 33KΩ)	[R8]
59	0KY0R3Q4S6820	AB		C	Resistor(1/16W 6.8KΩ)	[R10]
60	0KY0R3Q1V9120	AB		C	Resistor(1/8W 9.1KΩ)	[R11]
61	0KY0R3Q1V2030	AB		C	Resistor(1/8W 20KΩ)	[R12]
62	0KY0R3Q0V1020	AC		C	Resistor(1/8W 1.0KΩ)	[R13]
63	0KY0R3Q0V6810	AC		C	Resistor(1/8W 680Ω)	[R17]
64	0KY0R153U3300	AC		C	Resistor(1/4W 33Ω)	[R19]
65	0KY0R3Q1V1040	AB		C	Resistor(1/8W 100KΩ)	[R24]
66	0KY0R153U2710	AC		C	Resistor(1/4W 270Ω)	[R25]
67	0KY0R3Q1V4730	AB		C	Resistor(1/8W 47KΩ)	[R26]
68	0KY0R3Q1V4730	AB		C	Resistor(1/8W 47KΩ)	[R27]
69	0KY0R3Q0V1010	AC		C	Resistor(1/8W 100Ω)	[R29]
70	0KY0R153U4710	AC		C	Resistor(1/4W 470Ω)	[R110]
71	0KY0R3Q4S1020	AD		C	Resistor(1/16W 1.0KΩ)	[R111]
72	0KY0R3Q0V4730	AC		C	Resistor(1/8W 47KΩ)	[R112]
73	0KY0R3Q1V7520	AB		C	Resistor(1/8W 7.5KΩ)	[R113]
74	0KY0R3Q1V1530	AB		C	Resistor(1/8W 15KΩ)	[R115]
75	0KY0R153U4720	AB		C	Resistor(1/4W 4.7KΩ)	[R117]
76	0KY0R153U4720	AB		C	Resistor(1/4W 4.7KΩ)	[R121]
77	0KY0R153U4720	AB		C	Resistor(1/4W 4.7KΩ)	[R122]
78	0KYL2000DS062	BC		B	Transformer(2D62)	[T1]
79	0KY0R854E5020	AK		B	Variable resistor(1/10W 5KΩ)	[VR101]
80	0KY0D754A4710	AK		B	Transient voltage surge suppressor(ENC471)	[Z1]
	(Unit)					
⚠ 901	RDENT2175XHZZ	BH		E	Power supply PWB unit	
[9] Operation panel PWB unit						
1	QSW-Q2331XHZZ	AE		C	Tact switch	[SW]
2	QSW-M2246AXZZ	AH		C	FRSNS sensor	
3	QSW-M2294XHZZ	AE		C	ORGSNS sensor	
	(Unit)					
901	DCEKP478CXH02	BG		E	Operation panel PWB unit	

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PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
[C]				
CCNWN395BXH01	1-3	AP		C
CGERH2314XH05	4-1	AS		C
CGERH2566XH01	5-21	AG		C
CLEVP2358XH01	1-4	AD		C
CLEVP2359XH01	4-2	AD		C
CLEVP2360XH01	4-3	AD		C
CLEVP2361XH01	4-4	AD		C
CLEVP2362XH01	4-5	AD		C
CPAKC345FXH01	5-17		N	D
CPAKC346FXH01	5-17		N	D
CPAKC347FXH01	5-17		N	D
CPLTP3183XHRG	5-20	AV		C
CPLTP3222XHR2	5-3	AQ		C
CROLR2481XH01	1-5	AQ		C
[D]				
DCEKC789SXHZZ	1-6		N	E
〃	6-901		N	E
DCEKL339CXH04	1-7	BG		E
〃	7-901	BG		E
DCEKP478CXH02	3-5	BG		E
〃	9-901	BG		E
DCEKP480CXH34	3-901		N	E
DCEKP480CXH35	3-901		N	E
DCEKP480CXH36	3-901		N	E
DUNTK497CXHAG	5-1	AY	N	E
DUNTK497CXHBW	5-1		N	E
DUNTK497CXHFW	5-1	AY		E
[G]				
GCABB2393XHSD	1-35	AZ		D
GCABB2393XHSQ	1-35	AZ	N	D
GCABB2393XHSY	1-35	BB	N	D
GCASP2173XHSV	3-1	BA	N	D
GCASP2173XHZK	3-1	BB	N	D
GCASP2173XHZL	3-1		N	D
GCOVA2447XHSM	1-46	AK	N	C
GCOVA2447XHVA	1-46	AL		D
GCOVA2447XHVB	1-46	AL	N	D
GCOVA2448XHRI	2-1	AU	N	C
GCOVA2448XHVA	2-1	AX		C
GCOVA2448XHVB	2-1	AV	N	C
GLEGG2078XHZZ	1-47	AD		C
[H]				
HPNLH2420XHSQ	1-62	AP	N	D
〃	3-21	AP	N	D
HPNLH2420XHZK	1-62	AL	N	D
〃	3-21	AL	N	D
HPNLH2420XHZY	1-62		N	D
〃	3-21		N	D
[J]				
JBTN-2357XHSB	3-2	AK		C
JBTN-2357XHSE	3-2	AM	N	C
JBTN-2358XHSC	3-4	AP	N	C
JBTN-2358XHSD	3-4	AP	N	C
JBTN-2359XHSD	3-3	AQ		C
JBTN-2359XHSG	3-3	AQ	N	C
JBTN-2360XHSC	3-18	AH		C
JBTN-2360XHSE	3-18	AL	N	C
JBTN-2361XHSD	3-19	AM		C
JBTN-2361XHSE	3-19	AM	N	C
[L]				
LBNDJ2006XHZZ	1-17	AA		C
〃	2-29	AA		C
LBSHP2140XHZA	1-22	AC		C
LBSHP2143XHZZ	1-23	AC		C
LBSHP2148XHZA	2-25	AE		C
LBSHP2149XHZA	2-26	AE		C
LFRM-2225XHSI	1-24	AN	N	C
LFRM-2225XHVA	1-24	AP		C
LFRM-2225XHVB	1-24	AQ	N	C
LFRM-2226XHZZ	4-6	AQ		C
LFRM-2227XHZZ	2-6	AQ		C
LFRM-2232XHZZ	2-7	AT		C
LHLDZ2224XHZZ	2-18	AL		C
LHLDZ2227XHZZ	1-36	AD		C
LHLDZ2228XHZZ	1-37	AD		C
LPLTG2911XHZZ	3-11	AE		C
LPLTG3181XHZZ	2-19	AD		C
LPLTM3178XHZZ	1-48	AF		C
LPLTM3190XHZZ	4-7	AG		C
LPLTP3175XHZZ	3-12	AD		C
LPLTP3176XHZZ	3-13	AD		C
LPLTP3177XHZZ	1-49	AD		C
LPLTP3179XHZZ	2-20	AD		C
LPLTP3180XHZZ	2-21	AH		C
LPLTP3182XHZZ	2-22	AH		C
LX-BZ2222XHZZ	2-B3	AC		C
LX-BZ2234XHZZ	2-B1	AD		C
LX-BZ2282XHZZ	1-B3	AB		C
LX-WZ2290XHZZ	1-W2	AE		C
[M]				
MCAMP2028XHZZ	4-8	AE		C
MLEVP2356XHZA	1-51	AD		C
MLEVP2357XHZZ	1-50	AD		C
MLEVP2363XHZZ	2-8	AD		C
MSPRC3287XHZZ	1-38	AB		C
MSPRC3288XHZZ	1-39	AB		C
MSPRC3295XHZZ	1-25	AB		C
MSPRC3299XHZZ	2-23	AB		C
MSPRC3300XHZZ	2-24	AB		C
MSPRC3301XHZZ	2-2	AB		C
MSPRC3305XHZZ	2-9	AB		C
MSPRC3335XHZZ	2-30	AD		C
MSPRC3340XHZA	1-40	AD		C
MSPRC3346XHZZ	1-66	AD		C
MSPRC3357XHZZ	1-67	AD		C
MSPRD3285XHZZ	1-53	AB		C
MSPRD3286XHZA	1-52	AB		C
MSPRD3291XHZZ	1-54	AD		C
MSPRD3292XHZA	1-55	AB		C
MSPRD3293XHZZ	3-14	AB		C
MSPRD3298XHZZ	4-9	AE		C
MSPRD3302XHZZ	2-10	AB		C
MSPRD3341XHZZ	1-65	AD		C
MSPRD3379XHZZ	1-26	AD		C
MSPRP3297XHZZ	4-23	AD		C
MSPRT3294XHZZ	3-15	AB		C
[N]				
NGERH2380XHZZ	4-10	AC		C
NGERH2409XHZZ	4-11	AB		C
NGERH2568XHZZ	5-4	AB		C
NGERH2569XHZZ	1-27	AC		C
NGERH2570XHZZ	1-28	AD		C
NGERH2571XHZZ	4-12	AD		C
NGERH2572XHZZ	4-13	AD		C
NGERH2573XHZZ	4-14	AD		C
NGERH2574XHZZ	4-15	AD		C
NGERH2575XHZZ	4-16	AD		C
NGERH2576XHZZ	4-17	AD		C
NGERH2577XHZZ	4-18	AD		C
NGERH2579XHZZ	2-27	AD		C
NGERH2580XHZZ	2-11	AC		C
NGERH2581XHZZ	2-12	AC		C
NGERH2582XHZZ	4-19	AC		C
NGERP2318XHZZ	2-3	AD		C
NROLP2332XHZZ	1-29	AD		C
NROLR2482XHZZ	1-30	AR		C
NROLR2483XHZZ	2-13	AL		C
NROLR2485XHZZ	2-28	AQ		C
NROLR2504XHZZ	2-14	AL		C
NSFTP2357XHZZ	2-15	AG		C
NSFTP2374XHZZ	2-16	AG		C
[P]				
PBRS-2055XHZZ	1-63	AN		C
PCOVP2130XHZZ	1-41	AE		C
PCOVP2131XHVA	1-57	AG		C
PCOVP2131XHVB	1-57	AG	N	C
PCOVP2131XHVF	1-57	AC	N	C
PCOVP2132XHZZ	1-58	AD		C
PGIDM2614XHSA	3-16	AL		C
PGIDM2614XHSD	3-16	AQ		C
PGIDM2614XHSF	3-16	AQ		C
PGIDM2615XHZZ	1-42	AD		C
PGIDM2616XHZZ	1-43	AD		C
PGIDM2617XHZZ	1-31	AD		C
PGIDM2618XHZZ	1-32	AD		C
PGIDM2619XHSJ	2-4	AF	N	C
PGIDM2619XHVA	2-4	AG		C
PGIDM2619XHVC	2-4	AG	N	C
PGIDM2620XHSJ	2-5	AF	N	C
PGIDM2620XHVA	2-5	AG		C
PGIDM2620XHVC	2-5	AG	N	C
PGIDM2621XHSA	2-17	AF		C
PGIDM2621XHSD	2-17	AT	N	C
PGIDM2621XHSF	2-17	AL		C
PRBNN2032SC50	5-5	AY		S
PSHEP3660XHZZ	3-17	AE		C
PSHEZ3410XHZZ	1-70	AB		C
PSHEZ3687XHZZ	1-64	AD		C
[Q]				
QACCE2042XHZZ	1-59	AL		B
QCNCM2508SC1D	6-85	AF		C
QCNCM2638SC0F	6-89	AE		C
QCNCM2666XH0C	6-90	AD		C
QCNCM2666XH0G	6-83	AE		C
QCNCM2666XH1F	6-87	AF		C
QCNCM7014SC0B	6-84	AD		C
QCNCM7014SC0C	6-88	AA		C
QCNCM7014SC0F	6-86	AB		C
QCNCM7014SC1E	6-91	AC		C
QCNCW715PAFZZ	7-33	AG		C
QCNWG208BXHZZ	5-6	AF		C
QCNWG209BXHAG	5-2	AP		C
QCNWG209BXHBW	5-2	AN		C
QCNWG209BXHOW	5-2	AH		C
QCNWN399BXHZZ	1-16	AP	N	C
〃	3-9	AP	N	C
QCNWN419BXHZZ	1-33	AL		C
QCNWN483AXHZZ	4-20	AD		C
QCNWN486AXHZZ	1-44	AM		C
QFS-L1037YCZZ	6-95	AD		B
QJAKZ2073SCFB	7-34	AD		C
〃	7-35	AD		C
QJAKZ2079XH0D	7-32	AD		C
QPWBF3368XHZ2	1-8	AQ		E
QSW-F2224SCZZ	4-21	AE		C
QSW-M2246AXZZ	3-7	AH		C
〃	9-2	AH		C
QSW-M2294XHZZ	3-8	AE		C
〃	9-3	AE		C
QSW-Q2331XHZZ	3-6	AE		C
〃	9-1	AE		C
QSW-Z2317XHZZ	7-82	AF		C
[R]				
RC-FZ3024SCZZ	7-8	AG		C
RCRSB0297AFZZ	6-181	AD		B
RCRSP2176SCZZ	6-180	AG		B
RDENT2175XHZZ	1-61	BH		E
〃	8-901	BH		E
RFILN2027XHZZ	7-40	AC		C
〃	7-41	AC		C
RH-IX2168SCZZ	6-97	BB		B
RH-IX2356XHZZ	6-100	AL		B
RH-IX2357XHZZ	6-179	AH		B
RHEDZ2065XHZZ	1-45	BP		B
RMOTS2175XHZZ	4-22	AX		B
RR-TZ3017SCZZ	6-178	AC		B
RR-TZ3018SCZZ	6-175	AC		B
〃	6-176	AC		B
〃	6-177	AC		B
RRLYD3436XHZZ	7-31	AP		B
RTRNI2164XHZZ	7-83	AG		B
RUNTZ2124XHZZ	1-34	BM		B
RUNTZ2127XH01	3-10	BC		E
[S]				
SPAKA465CXHZZ	5-14	AF		D
SPAKA466CXHZZ	5-15	AF		D
SPAKA467CXHZZ	5-16	AD		D
SPAKP329DXHZZ	5-18	AF		D
[T]				
TGANT2206XHZZ	5-22	AN		D
TINST4395XHTZ	5-11		N	D
TLABH346GXHZZ	2-31	AL		D
TLABH347GXHZZ	2-31		N	D
TLABH468DXHZZ	2-32	AG	N	D
TLABH498FXHZZ	1-68	AH		D
[U]				
UBATL2049SCZZ	6-1	AF		B
[V]				
VCCCCY1HH101J	6-13	AA		C

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
VCCCCY1HH101J	6-14	AA		C
〃	6-19	AA		C
〃	6-20	AA		C
〃	6-21	AA		C
〃	6-23	AA		C
〃	6-24	AA		C
〃	6-60	AA		C
〃	6-62	AA		C
〃	6-63	AA		C
〃	6-72	AA		C
〃	6-73	AA		C
〃	6-74	AA		C
〃	6-75	AA		C
〃	6-76	AA		C
〃	6-79	AA		C
VCCCCY1HH150J	6-29	AB		C
VCCCCY1HH220J	6-51	AA		C
〃	6-52	AA		C
VCCCCY1HH221J	6-37	AA		C
〃	7-14	AA		C
VCCCCY1HH330J	6-28	AA		C
〃	7-26	AA		C
VCEAGA0JW227M	6-2	AD		C
〃	6-4	AD		C
VCEAGA1EW107M	7-11	AB		C
VCEAGA1EW476M	6-3	AA		C
〃	6-7	AA		C
VCEAGA1HW106M	6-5	AA		C
〃	6-6	AA		C
〃	6-8	AA		C
〃	6-9	AA		C
〃	7-5	AA		C
〃	7-10	AA		C
VCEAGA1HW107M	7-7	AA		C
VCEAGA1HW226M	6-10	AB		C
〃	7-4	AB		C
〃	7-6	AB		C
〃	7-9	AB		C
VCEAGA1HW475M	7-3	AA		C
VCKYCY1AB105K	6-55	AB		C
〃	6-56	AB		C
〃	6-66	AB		C
〃	7-56	AB		C
VCKYCY1AF105Z	6-35	AC		C
〃	6-36	AC		C
〃	6-38	AC		C
〃	6-39	AC		C
〃	6-42	AC		C
〃	6-45	AC		C
〃	6-46	AC		C
〃	6-47	AC		C
〃	6-48	AC		C
〃	6-49	AC		C
〃	6-50	AC		C
〃	6-58	AC		C
〃	6-59	AC		C
VCKYCY1CB104K	6-65	AB		C
〃	6-68	AB		C
〃	6-69	AB		C
〃	7-27	AB		C
VCKYCY1HB102K	6-11	AA		C
〃	6-12	AA		C
〃	6-57	AA		C
〃	6-77	AA		C
〃	6-78	AA		C
〃	6-80	AA		C
〃	7-13	AA		C
〃	7-16	AA		C
〃	7-17	AA		C
〃	7-20	AA		C
〃	7-22	AA		C
VCKYCY1HB103K	6-26	AA		C
〃	6-30	AA		C
VCKYCY1HB222K	7-19	AA		C
VCKYCY1HB471K	6-81	AB		C
VCKYCY1HB472K	6-31	AA		C
VCKYCY1HB821K	7-24	AA		C
〃	7-25	AA		C
VCKYCY1HF104Z	6-15	AA		C
〃	6-16	AA		C

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
VCKYCY1HF104Z	6-17	AA		C
〃	6-18	AA		C
〃	6-22	AA		C
〃	6-25	AA		C
〃	6-27	AA		C
〃	6-32	AA		C
〃	6-33	AA		C
〃	6-34	AA		C
〃	6-40	AA		C
〃	6-41	AA		C
〃	6-43	AA		C
〃	6-44	AA		C
〃	6-53	AA		C
〃	6-54	AA		C
〃	6-61	AA		C
〃	6-64	AA		C
〃	6-71	AA		C
〃	6-82	AA		C
〃	6-152	AA		C
VCKYPA1HB103K	7-12	AA		C
VCKYTV1EB104K	7-15	AA		C
VCKYTV1HB223K	7-18	AA		C
〃	7-21	AA		C
VHDDSS133//-1	7-36	AA		B
〃	7-37	AA		B
VHDHRW0202B-1	6-92	AD		B
VHD1SS355//-1	6-93	AB		B
〃	6-94	AB		B
VHEHZ2C1///-1	7-85	AA		B
〃	7-86	AA		B
VHEHZ27-1//-1	7-87	AB		B
VHEMTZJ100B-1	7-88	AC		B
VHE02CZ180Y-1	6-183	AC		B
VHE1N4748A/-1	6-182	AC		B
VHIF002/TB97A	6-96	BD	N	B
VHINJM2113M-1	6-99	AG		B
VHINJM2904M-2	7-38	AG		B
〃	7-39	AG		B
VHINJM78L05A1	7-81	AD		B
VHISCE209//-1	6-98	BH		B
VHPSG206S//-1	7-43	AG		B
〃	7-44	AG		B
VHPTLP621-1BL	7-42	AD		B
VHVDSS301L/-U	7-84	AF		B
VHVRA501PC6-1	7-1	AG		B
〃	7-2	AG		B
VRD-HT2EY101J	7-50	AA		C
VRS-CY1JB000J	6-67	AA		C
〃	6-70	AA		C
〃	6-101	AA		C
〃	6-102	AA		C
〃	6-103	AA		C
〃	6-117	AA		C
〃	6-125	AA		C
〃	6-142	AA		C
〃	6-154	AA		C
〃	6-160	AA		C
〃	6-171	AA		C
〃	7-23	AA		C
〃	7-28	AA		C
〃	7-73	AA		C
VRS-CY1JB101J	6-172	AA		C
〃	7-67	AA		C
VRS-CY1JB102J	6-123	AA		C
〃	6-127	AA		C
〃	6-136	AA		C
〃	6-137	AA		C
〃	6-139	AA		C
〃	6-140	AA		C
〃	6-153	AA		C
〃	6-167	AA		C
〃	7-54	AA		C
〃	7-59	AA		C
VRS-CY1JB103J	6-121	AA		C
〃	6-131	AA		C
〃	6-133	AA		C
〃	6-143	AA		C
〃	6-150	AA		C
〃	6-151	AA		C
〃	7-72	AA		C

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
VRS-CY1JB104J	6-141	AA		C
〃	6-174	AA		C
VRS-CY1JB105J	6-135	AA		C
VRS-CY1JB106J	6-149	AA		C
VRS-CY1JB124J	6-128	AA		C
〃	6-166	AA		C
〃	7-63	AA		C
VRS-CY1JB150J	6-104	AA		C
VRS-CY1JB151J	6-132	AA		C
〃	6-169	AA		C
〃	6-170	AA		C
VRS-CY1JB152J	7-64	AA		C
VRS-CY1JB153J	7-77	AA		C
VRS-CY1JB203J	6-126	AA		C
〃	6-129	AA		C
〃	6-145	AA		C
〃	6-155	AA		C
〃	7-75	AA		C
〃	7-76	AA		C
〃	7-78	AA		C
VRS-CY1JB222J	6-158	AA		C
VRS-CY1JB223J	6-157	AA		C
VRS-CY1JB224J	6-130	AA		C
〃	6-146	AA		C
VRS-CY1JB242J	7-69	AA		C
VRS-CY1JB271J	6-115	AA		C
〃	6-116	AA		C
〃	6-122	AA		C
〃	6-148	AA		C
〃	6-156	AA		C
〃	6-161	AA		C
〃	6-162	AA		C
〃	6-163	AA		C
〃	6-164	AA		C
〃	6-168	AA		C
〃	6-173	AA		C
VRS-CY1JB273J	7-55	AA		C
VRS-CY1JB301J	6-138	AA		C
VRS-CY1JB332J	7-53	AA		C
〃	7-57	AA		C
〃	7-60	AA		C
〃	7-65	AA		C
〃	7-68	AA		C
〃	7-79	AA		C
VRS-CY1JB392J	6-159	AA		C
VRS-CY1JB393J	6-165	AA		C
VRS-CY1JB471J	6-118	AA		C
〃	6-119	AA		C
〃	6-120	AA		C
〃	6-134	AA		C
VRS-CY1JB474J	6-144	AA		C
VRS-CY1JB512J	6-124	AA		C
VRS-CY1JB513J	6-147	AA		C
〃	7-74	AA		C
VRS-CY1JB562J	6-114	AA		C
VRS-CY1JB621J	7-71	AA		C
VRS-CY1JB682J	7-80	AA		C
VRS-CY1JB683J	7-62	AA		C
VRS-CY1JB822J	7-61	AA		C
VRS-CY1JB823J	7-70	AD		C
VRS-HT3AA223J	7-52	AA		C
VRS-RE3AA122J	7-51	AC		C
VRS-TS2AD000J	7-29	AA		C
〃	7-30	AA		C
VRS-TS2AD151J	7-58	AA		C
VRS-TS2AD433J	7-66	AA		C
VSKRA102M//-3	7-45	AD		B
VSKTC3875GR-1	7-46	AB		B
VSRT1N141C/-1	6-106	AB		B
〃	6-107	AB		B
〃	6-108	AB		B
〃	6-112	AB		B
〃	6-113	AB		B
VSRT1N436C/-1	6-109	AD		B
〃	7-47	AD		B
〃	7-48	AD		B
〃	7-49	AD		B
VSRT1P141C+-1	6-111	AB		B
VSSI4431ADY-1	6-110	AF		B
VS2SA1530AS-1	6-105	AC		B

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
[X]				
XEBSD20P06000	3-B1	AA		C
XEBSD30P08000	4-B1	AA		C
XEBSD30P10000	1-B1	AA		C
〃	2-B2	AA		C
XEBSD30P12000	1-B2	AA		C
XEPSD30P08000	1-B4	AA		C
XWHSN40-08100	1-W1	AA		C
[0]				
0KYC1103EC103	8-7	AC		C
0KYC1103EC472	8-8	AC		C
0KYC3108MS560	8-4	AV		C
0KYH7101AS002	8-45	AM		B
0KYK2101LS006	8-18	AK		C
0KYL2000DS062	8-78	BC		B
0KY0C1A9Y1020	8-16	AG		C
0KY0C1B2S4700	8-6	AF		C
0KY0C1Q1E1010	8-10	AD		C
0KY0C176Q4720	8-5	AL		C
〃	8-12	AL		C
0KY0C194E1010	8-9	AC		C
0KY0C195E1040	8-11	AD		C
〃	8-15	AD		C
0KY0C245Q1040	8-3	AM		C
0KY0C3A0B4710	8-14	AM		C
0KY0C3A0D2210	8-13	AM		C
0KY0D157A0060	8-23	AG		B
〃	8-24	AG		B
〃	8-25	AG		B
〃	8-26	AG		B
0KY0D221B0020	8-32	AT		B
0KY0D251A0020	8-20	AD		B
〃	8-21	AD		B
〃	8-22	AD		B
〃	8-27	AD		B
〃	8-28	AD		B
〃	8-29	AD		B
〃	8-30	AD		B
0KY0D266A0020	8-33	AK		B
0KY0D461A3200	8-34	AL		B
0KY0D466A0480	8-35	AE		B
0KY0D466A0600	8-19	AE		B
0KY0D466A0720	8-31	AE		B
0KY0D754A4710	8-80	AK		B
0KY0D763A8R00	8-44	AN		B
0KY0K251A0020	8-17	AK		C
0KY0K718A2R50	8-36	AM		A
〃	8-37	AM		A
0KY0L110K2230	8-43	AS		C
0KY0L551A0010	8-1	AE		C
〃	8-2	AE		C
0KY0M850A0010	8-39	AE		C
〃	8-40	AE		C
〃	8-41	AE		C
〃	8-42	AE		C
0KY0R153U2710	8-66	AC		C
0KY0R153U3300	8-64	AC		C
0KY0R153U4710	8-56	AC		C
〃	8-70	AC		C
0KY0R153U4720	8-75	AB		C
0KY0R153U4720	8-76	AB		C
〃	8-77	AB		C
0KY0R166B4750	8-52	AE		C
0KY0R3Q0V1010	8-69	AC		C
0KY0R3Q0V1020	8-62	AC		C
0KY0R3Q0V3330	8-58	AC		C
0KY0R3Q0V3910	8-57	AB		C
0KY0R3Q0V4730	8-72	AC		C
0KY0R3Q0V6810	8-63	AC		C
0KY0R3Q1V1040	8-65	AB		C
0KY0R3Q1V1530	8-74	AB		C
0KY0R3Q1V2030	8-61	AB		C
0KY0R3Q1V2230	8-55	AB		C
0KY0R3Q1V4730	8-67	AB		C
〃	8-68	AB		C
0KY0R3Q1V7520	8-73	AB		C
0KY0R3Q1V9120	8-60	AB		C
0KY0R3Q4S1020	8-71	AD		C
0KY0R3Q4S6820	8-59	AB		C
0KY0R353U6840	8-53	AD		C

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
0KY0R353U6840	8-54	AD		C
0KY0R854E5020	8-79	AK		B
0KY0T358A0040	8-47	AG		B
〃	8-48	AG		B
0KY0T394A0010	8-49	AF		B
〃	8-50	AF		B
〃	8-51	AF		B
0KY0T645A0020	8-46	AX		B
0KY0W000A0050	8-38	AC		C

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK

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